SERVICE MANUAL ST610

Since only the unidentical parts between the original model are listed, please use this manual (Flysheet) with the original model ST600 (N version) service manual accordingly.

Different Parts between MODEL ST600 (N) and MODEL ST610 (N)

REF. DESIG.	Q'TY	ST600 (N) PART NO.	DESCRIPTION	REF. DESIG.	Q'TY	ST610 (N) PART NO.	DESCRIPTION
A	1	2131063400	Front Panel Assembly	A	1	2131063410	Front Panel Assembly
002B	1	2131063010	Escutcheon	002B	1	2131063110	Escutcheon
013B	2	2979259020	Bushing	013B	2	2462259010	Bushing
080B	2	2128118010	Spacer	080B	2	2128118210	Spacer
017B	1	2216257110	Lid	017B	1	2131257010	Lid
031B	3	2131154010	Knob	031B	3	2131154110	Knob
037B	1	2131160220	Bracket, Rear Panel	037B	1	2131160240	Bracket, Rear Panel
100B	4	51480406S9	F. Washer Screw	100B	4	51480406B9	F. Washer Screw
101B	4	51280308U0	B.H. Tapped Screw	101B	4	51280308K0	B.H. Tapped Screw
B	1	2219273410	Flywheel Assembly	B	1	2219273420	Flywheel Assembly
007I	2	2219063030	Escutcheon	007I	2	2219063230	Escutcheon
001I	1	2286401010	Frame	001I	1	2286401110	Frame
001S	1	2131801010	Packing Case	001S	1	2131801020	Packing Case
002T	1	2131851030	Instruction	002T	1	2131851340	Instruction

N.B. Following precautions should be used when putting order for service manual:

(1) The original Service manual will not be delivered if the P/N 2131855040 (Flysheet) is used for ordering.

(2) When comprehensive manual are required, please use both P/N of 2131855020 (Original) and 2131855040 (Flysheet) simultaneously.

marantz®

Printed in Japan

2131855040
1980/6

SERVICE MANUAL ST600

marantz

model ST600

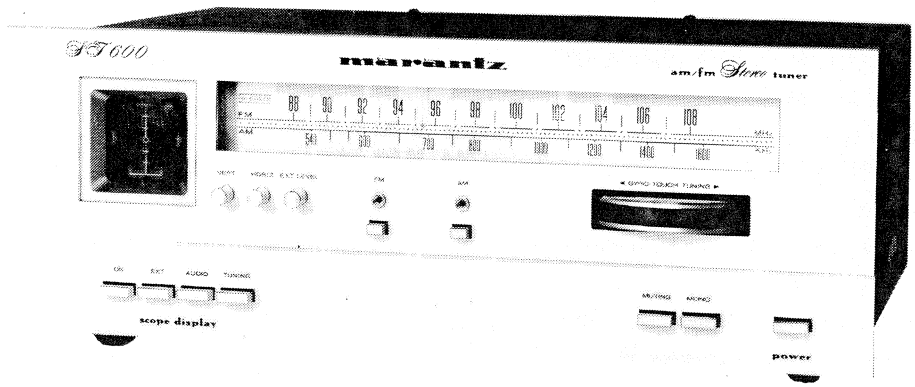
Stereophonic Tuner

TABLE OF CONTENTS

SECTION PAGE

1. P.W. BOARDS 1
2. TEST EQUIPMENT REQUIRED FOR SERVICING 2
3. SCOPE DISPLAY ADJUSTMENT 2
   3.1 AM Tuning Display Adjustment 2
4. AM ALIGNMENT PROCEDURES 2
   4.1 AM IF Alignment 2
   4.2 AM Frequency Range and Tracking Alignment 2
5. FM ALIGNMENT PROCEDURES 3
   5.1 FM Frequency Range and Tracking Alignment 3
   5.2 Stereo Separation Alignment 3
   5.3 Muting Threshold Adjustment 3
   5.4 Output Level Adjustment 4
6. VOLTAGE CONVERSION 4
7. DIAGRAMS AND COMPONENT LOCATIONS 5
   7.1 Block Diagram 5
   7.2 Schematic Diagram 6
   7.3 Tuner Board Schematic Diagram and Component Locations - P200 8
   7.4 Power Supply Board Schematic Diagram and Component Locations - P800 11
   7.5 Scope Amp Board Schematic Diagram and Component Locations - P900 12
   7.6 Scope Display Switches Board Schematic Diagram and Component Locations - PR00 13
   7.7 Function Switches Board Schematic Diagram and Component Locations - PS00 14
   7.8 Mode Switches Board Schematic Diagram and Component Locations - PT00 14
   7.9 Function Indicator Board Schematic Diagram and Component Locations - PY00 15
   7.10 Dial Lamp Board Scheamtic Diagram and Component Locations - PZ01 15
8. EXPLODED VIEWS AND PARTS LIST 16
   8.1 [C01-99] Front Panel 16
   8.2 [C02-99] Top and Bottom Cover 17
   8.3 [C03-99] Rear Panel 18
   8.4 [P01-99] Front Chassis and General Parts 19
   8.5 [P02-99] Scope Dial Assembly and P.W. Boards 20
   8.6 [P03-99] Main Chassis and P.W. Boards 21
   8.7 [H01-99] Packing Materials 23
   8.8 Electrical Parts List 24
9. TECHNICAL SPECIFICATIONS 29

MODEL ST600 AM/FM STEREOPHONIC TUNER



INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model ST600 AM/FM Stereophonic Tuner.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of the operations in the tuner.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can usually be obtained through local suppliers.

1. P.W. BOARDS

As can be seen from the circuit diagram, the chassis of Model ST600 consists of the following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Tuner . . . . . mounted on P.W. Board P200
2. Power Supply . . . . . mounted on P.W. Board P800
3. Dial Lamp . . . . . mounted on P.W. Board PZ01
4. Function Indicator . . . . mounted on P.W. Board PY00
5. Scope Amp . . . . . mounted on P.W. Board P900
6. Scope Display Switches . mounted on P.W. Board PR00
7. Function Switches . . . . mounted on P.W. Board PS00
8. Mode Switches . . . . . mounted on P.W. Board PT00

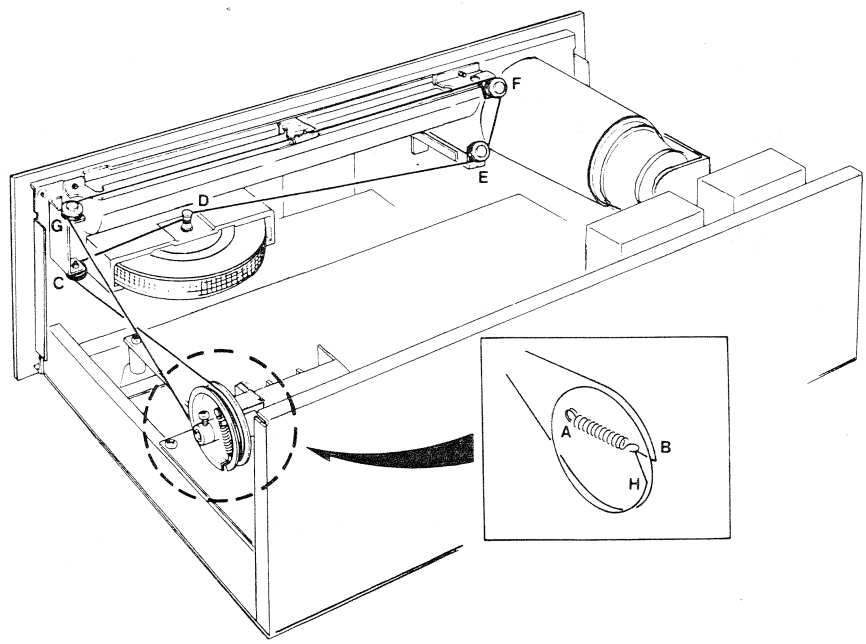


Figure 1. Dial Stringing

2. TEST EQUIPMENT REQUIRED FOR SERVICING

This table lists the test equipment required for servicing the Model ST600 Tuner.

Item	Manufacturer and Model No.	Use
AM Signal Generator		Signal source for AM alignment
Test Loop		Use with AM Signal Generator
FM Signal Generator MPX Signal Generator	Sound Technology Model 1000A	Signal source for FM alignment Stereo separation alignment and trouble shooting
Distortion Analyzer Audio Oscillator AC VTVM	Sound Technology Model 1700A	Distortion measurements Sinewave and squarewave signal source Voltage measurements (AC)
Oscilloscope	Tektronix Model T932 Philips Model 3232	Waveform analysis and trouble shooting
Frequency Counter	Fluke Model 1900A	MPX Oscillator adjustment (VCO)
Circuit Tester		Trouble shooting
DC VTVM	Fluke Model 8000 "Digital" Simpson Model 313, Triplet Model 801	Voltage measurements (DC)
AC Wattmeter	Simpson Model 1379	Monitors primary power to tuner
Line Voltmeter	Simpson Model 1359	Monitors potential of primary power to tuner
Variable Autotransformer	Superior Electronic Co., Powerstat Model 116B–10A	Adjusts level of primary power to tuner

3. SCOPE DISPLAY ADJUSTMENT

1. Set the EXT LEVEL control to its fully counterclockwise position.
2. Depress the SCOPE DISPLAY ON and AUDIO pushswitches in.
3. Adjust the HORIZ and VERT controls to center the dot in the small circle in the center of the scope display.
4. Adjust the BRIGHT control (R001) on the rear panel until the brightness becomes dark a little.
5. Adjust the FOCUS control (R002) so that the spot may be come smaller and circular.
6. Turn the EXT LEVEL control to its fully clockwise position.
7. Connect a 150 mV, 1 kHz signal to the SCOPE INPUTS R jack and adjust R928 (H. GAIN) until the horizontal deflection is around 3 cm.
8. In turn, connect the same signal to the L jack and similarly, adjust R927 (V. GAIN) until the vertical deflection is around 3 cm.
9. Set the HORIZ and VERT controls to the 12-o'clock position and adjust R925 (H. CENTER) until the spot comes in the horizontal deflection center.
10. Similarly, adjust R926 (V. CENTER) until the spot comes in the vertical deflection center.

3.1 AM Tuning Display Adjustment

1. Depress the SCOPE DISPLAY ON and TUNING pushswitches.
2. Depress the AM pushswitch.
3. Adjust R931 until the spot comes in the center below the base line without tuning into a station.

4. AM ALIGNMENT PROCEDURES

4.1 AM IF Alignment

1. Connect a sweep generator to the TC3 and an alignment scope to the R155.
2. Rotate each core of IF transformers L152 and L151 for the maximum height and flat top symmetrical response.

4.2 AM Frequency Range and Tracking Alignment

1. Set AM signal generator to 520 kHz. Turn the tuning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil L153 for maximum audio output.
2. Set the signal generator to 1630 kHz. Place the tuning pointer in the high frequency end and adjust the oscillator trimmer on the oscillator tuning capacitor for maximum audio output.
3. Repeat steps 1 and 2 until no further adjustment is necessary.
4. Set the generator to 600 kHz, tune the tuner to the same frequency and adjust a slug core of AM ferrite-rod antenna L001 for maximum output.
5. Set the generator to 1400 kHz and tune the tuner to the same frequency and adjust the trimming capacitor on the antenna tuning capacitor for maximum output.
6. Repeat procedures 4 and 5 until no further adjustment is necessary.

NOTE: During tracking alignment reduce the signal generator output as necessary to avoid AGC action.

5. FM ALIGNMENT PROCEDURES

5.1 FM Frequency Range and Tracking Alignment

1. Connect an FM signal generator to the FM antenna terminals and an oscilloscope and an audio distortion analyzer to the OUTPUT jacks on the rear panel.
2. Set the generator to 87.4 MHz and provide about 3 to 5 μV. Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the pitch of oscillator coil L105 to obtain maximum audio output.
3. Set the generator to 10812 MHz and provide about 3 to 5 μV. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor C121 for maximum output.
4. Repeat steps 2 and 3 until no further adjustment is necessary.
5. Set the generator to 90 MHz and tune the tuner to the same frequency. Decrease signal generator output until the audio output level decreases with the decreasing generator output. Adjust the pitch of antenna coil L101 and RF coil L102 for maximum output.
6. Set the generator to 106 MHz and tune the tuner to the same frequency. Decrease the signal generator output until the audio output level decreases with the decreasing generator output. Adjust the trimming capacitors of antenna and RF tuning circuits for maximum output.
7. Repeat steps 5 and 6 until no further adjustment is necessary.
8. Connect the center tuning meter to the test points J136 and J137. Adjust the L201 so that the tuning meter pointer indicates its center. Depress the SCOPE DISPLAY TUNING pushswitch. Adjust the R227 until the tuning bar is located the center of the oscilloscope. Set the FM signal generator to 60 dB at 98 MHz and tune the tuner to the same frequency in the vertical trace of the oscilloscope. Adjust the L202 for minimum distortion.

5.2 Stereo Separation Alignment

1. Set the FM signal generator to provide 1 kμV at 98 MHz. Tune the tuner to the same frequency so that the tuning bar is located the center of the oscilloscope. Then turn off the modulation of the generator, connect a frequency counter to test point J138 and adjust R304 so that the frequency counter may precisely read 76 kHz.
2. Modulate the generator with stereo composite signal consisting of only L or R channel (of course a pilot signal must be included).
3. Adjust the trimming resistor R336 for maximum and same separation in both channels.

5.3 Muting Threshold Adjustment

1. Set the FM signal generator output to provide 12.5 μV at 98 MHz and tune tuner to the same frequency. Adjust the trimming resistor R212 for the threshold level of 12.5 μV. (During this adjustment turn the FM MUTING pushswitch "on").

5-4 Output Level Adjustment

1. Set the FM signal generator to provide a 1000 Hz, 40k DEVIATION 98 MHz mono signal, at 1 kμV output. Precisely tune the tuner to 98 MHz and adjust R216 until the outputs of both channels are 560 mV.

6. VOLTAGE CONVERSION

To convert the unit to a different power source voltage, change the position as illustrated in the drawing below.

CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE. DO NOT DISASSEMBLE THE VOLTAGE SELECTOR ABSOLUTELY.

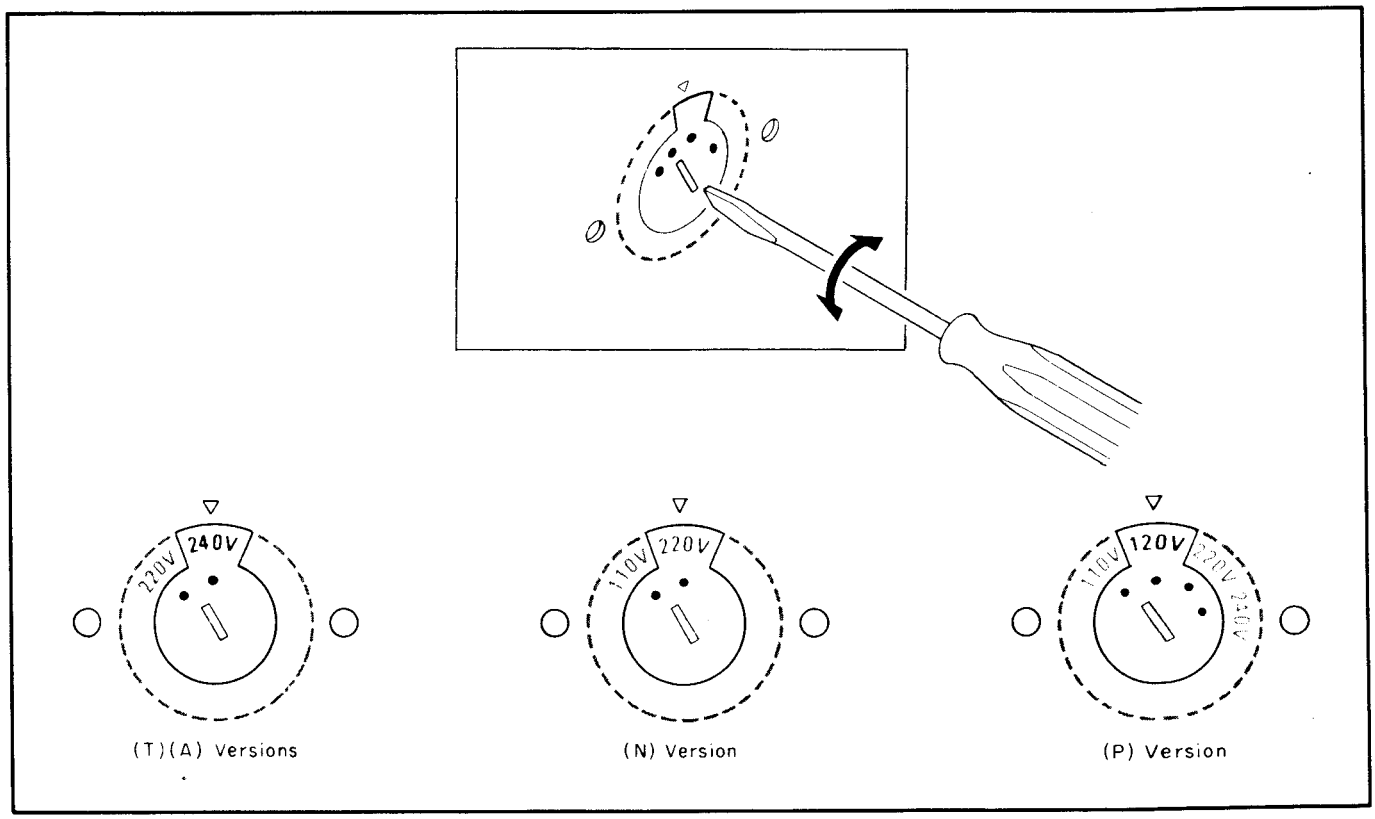


Figure 2. Voltage Conversion Chart

NOTE ON SAFETY:

THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.
PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBERS WITHOUT FAIL.

FTZ REGULATION

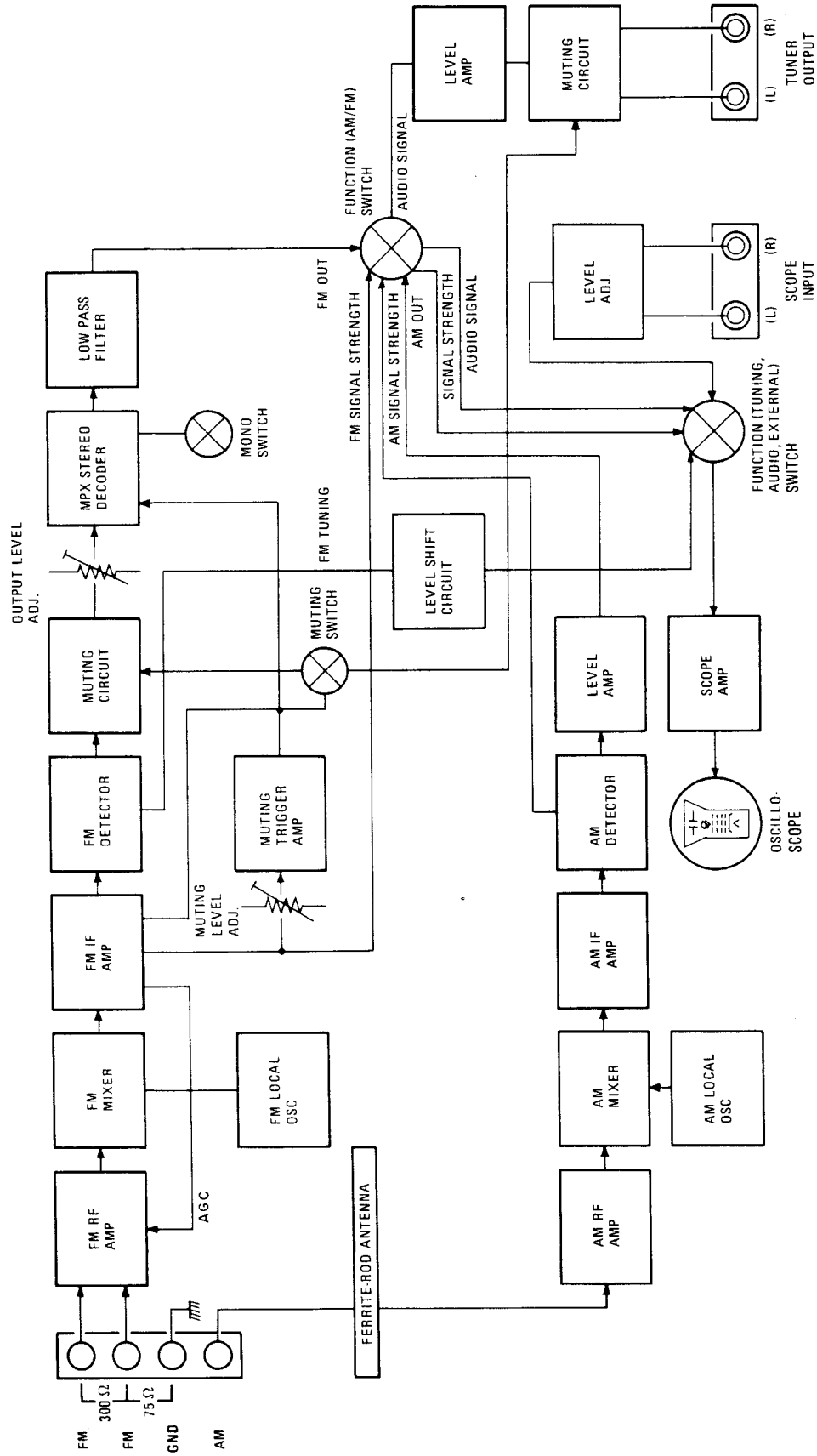
Instruction for the use in the range other than specified in FTZ codes.

Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherrschend sind.

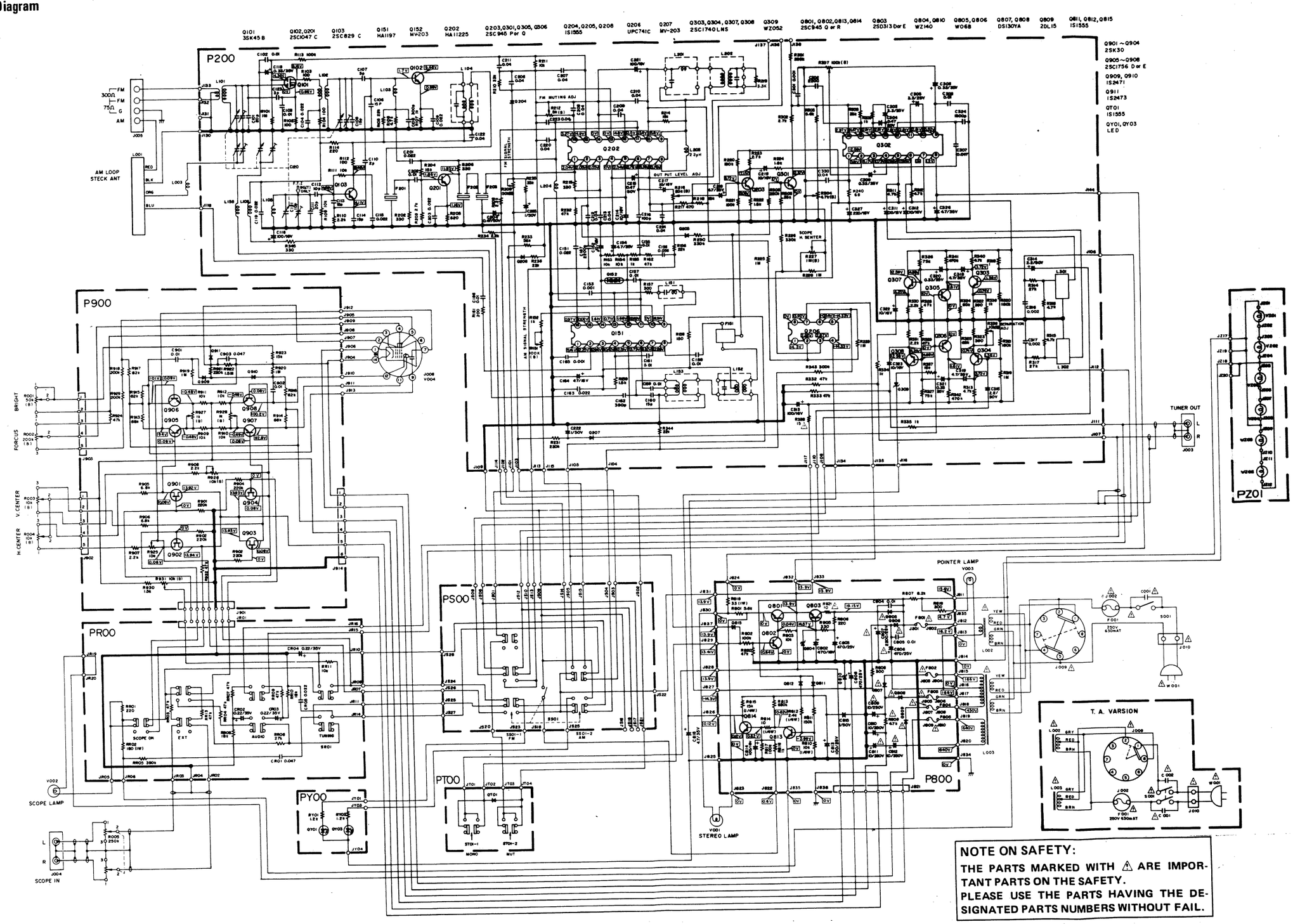
Sollte des Gerät auch für Frequenzen auszerhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangebereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorspule (in der Abbildung mit "FTZ" gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.

6. DIAGRAMS AND COMPONENT LOCATIONS

6.1 Block Diagram



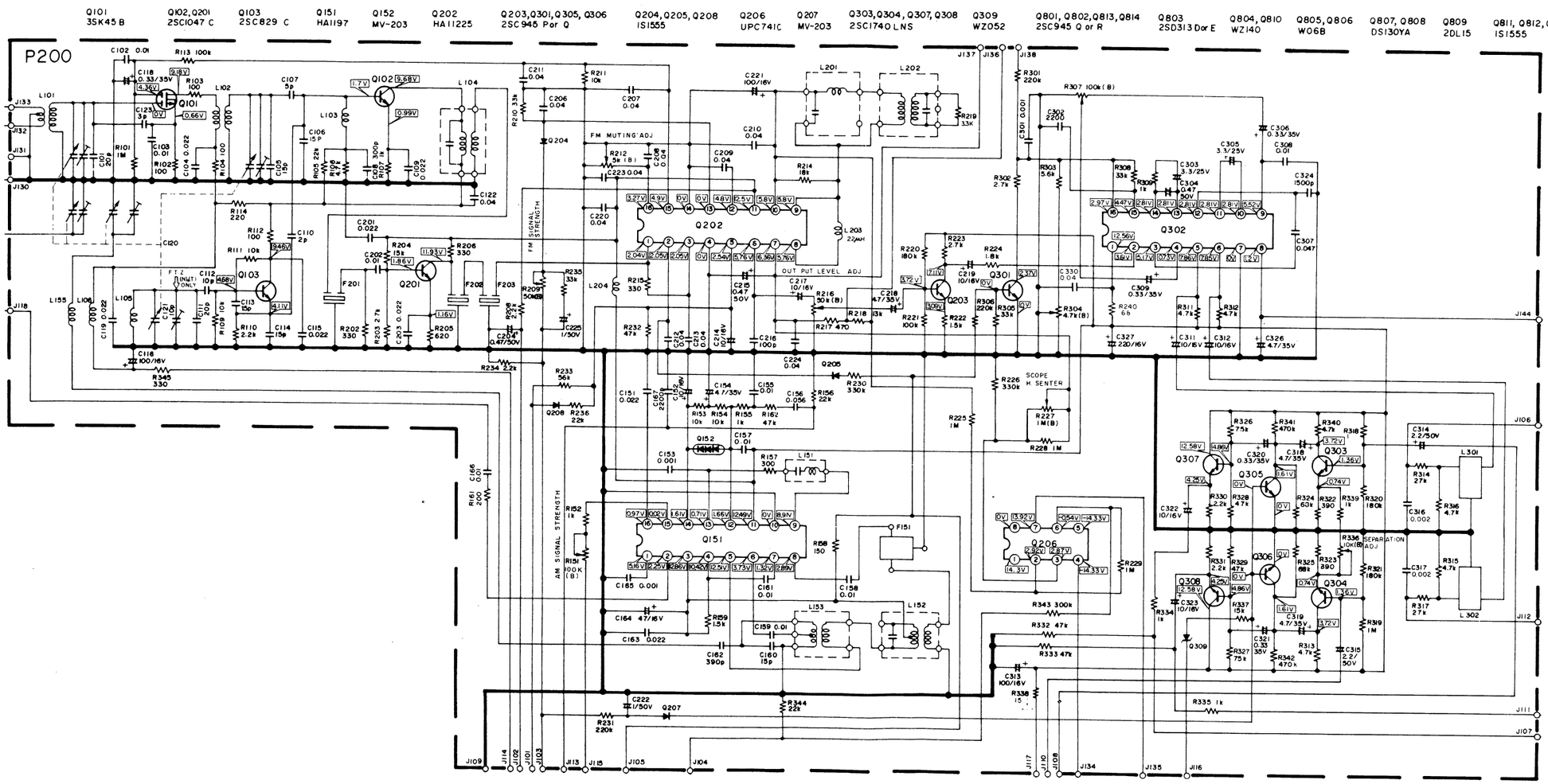
6.2 Schematic Diagram

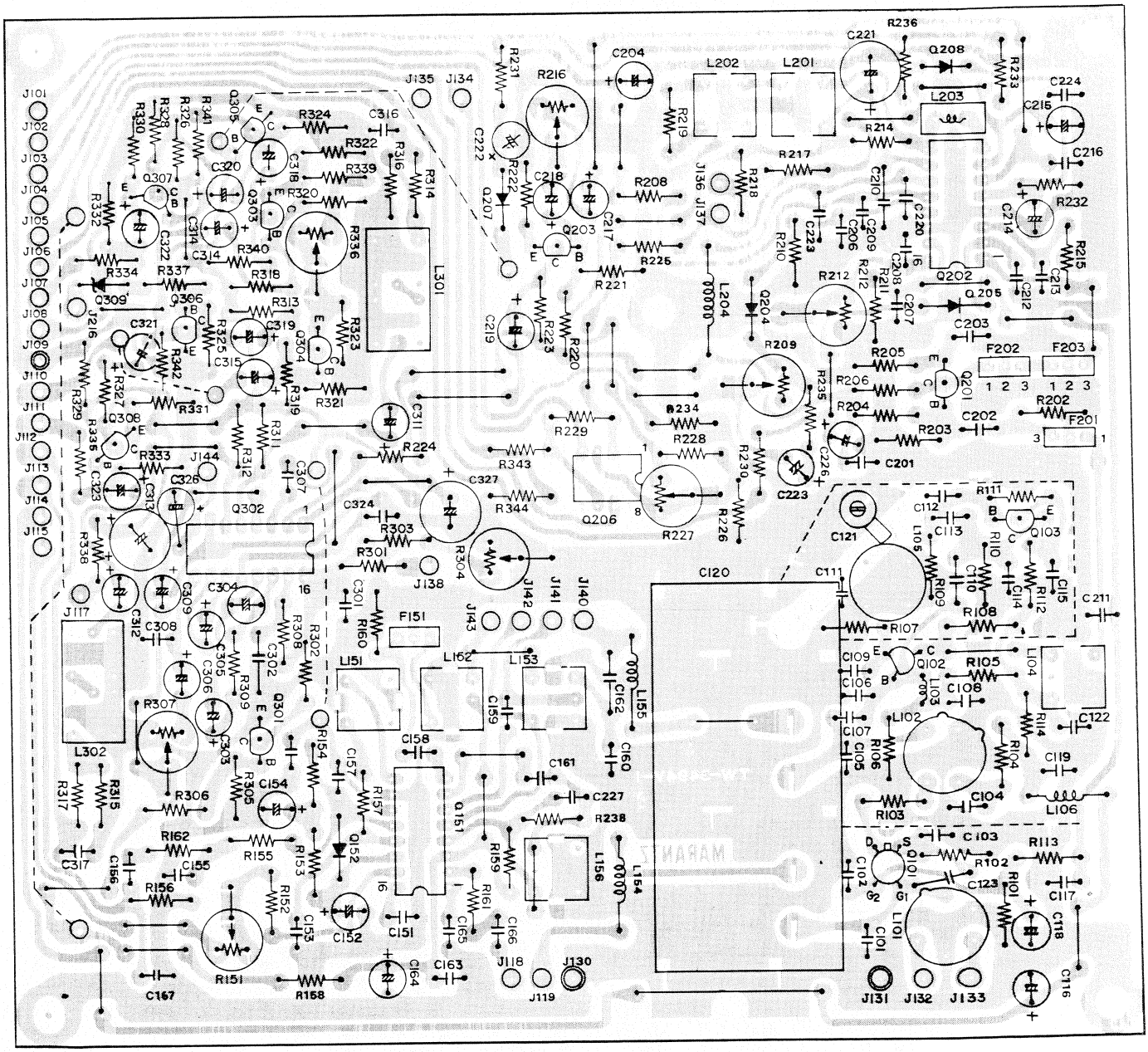


NOTE ON SAFETY:

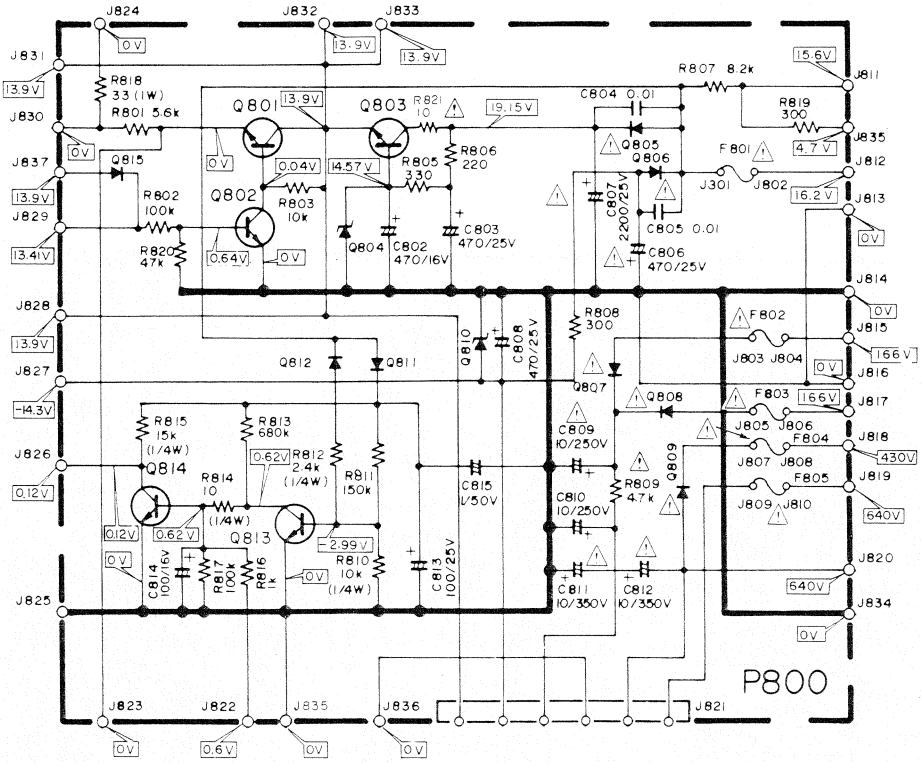
THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.
PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBERS WITHOUT FAIL.

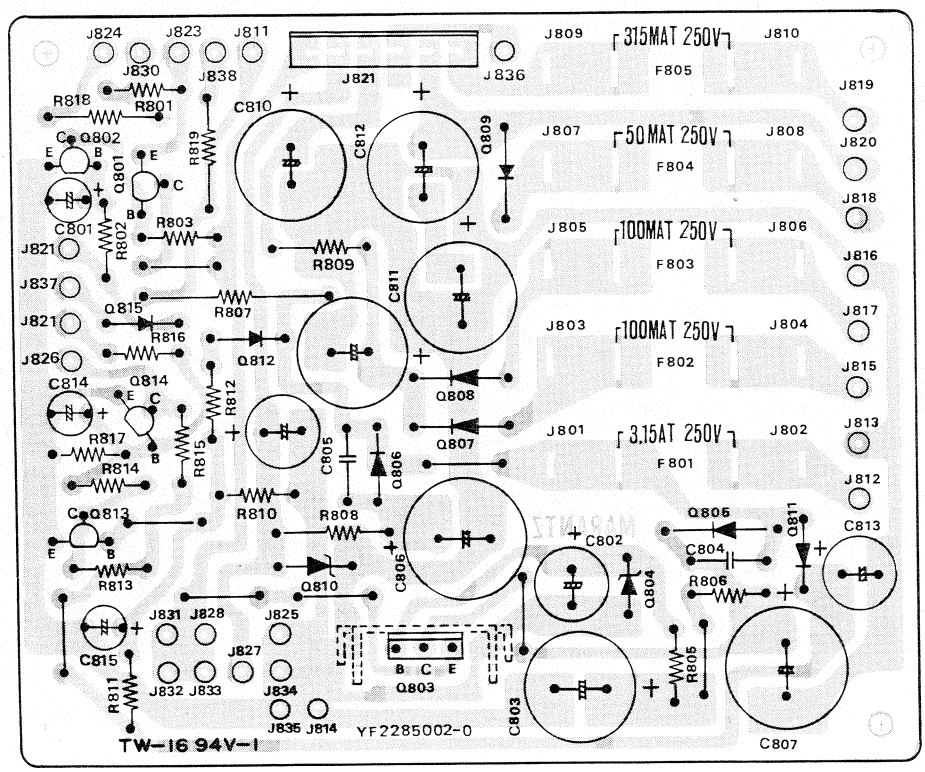
6.3 Tuner Board Schematic Diagram and Component Locations - P200



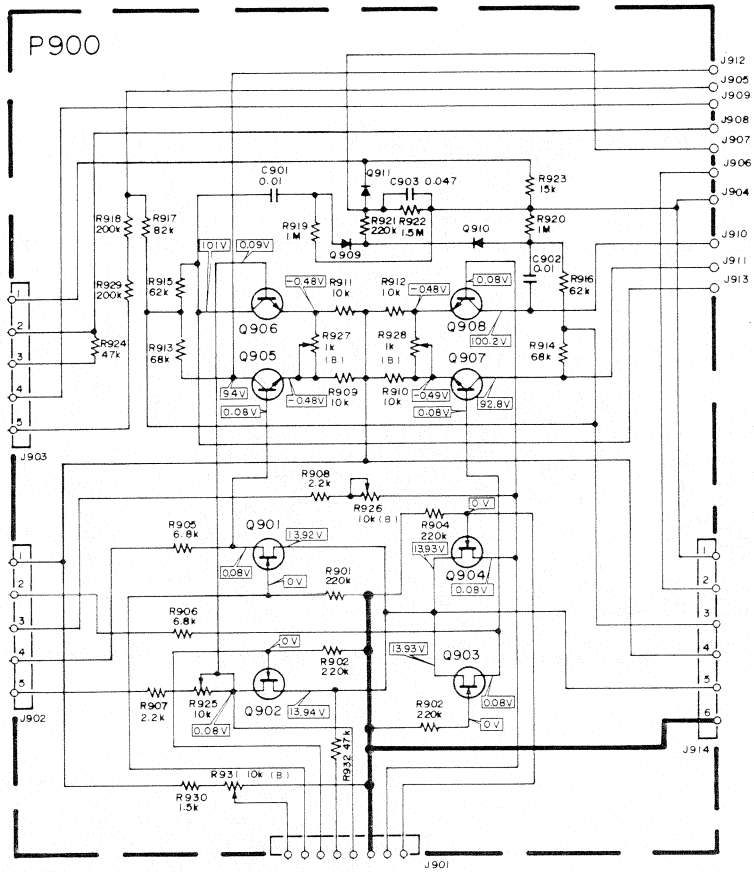


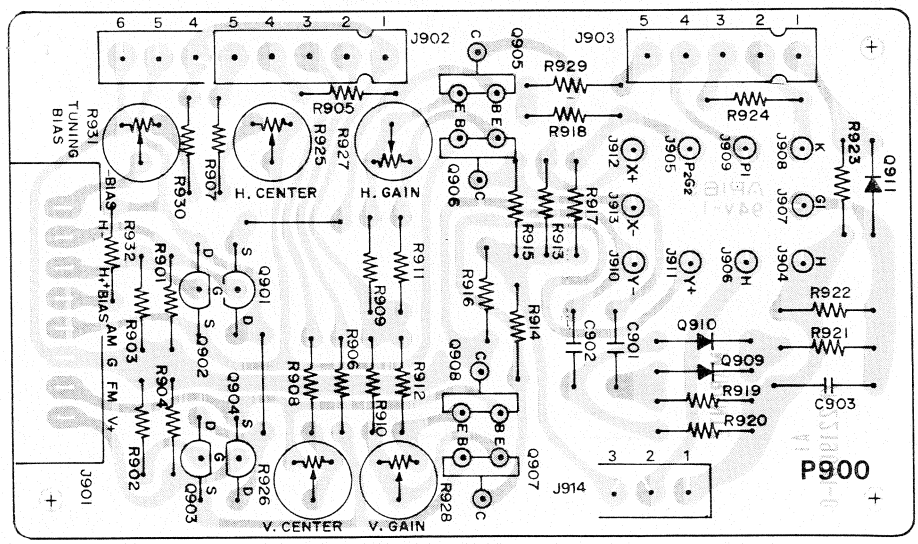
6.4 Power Supply Board Schematic Diagram and Component Locations - P800



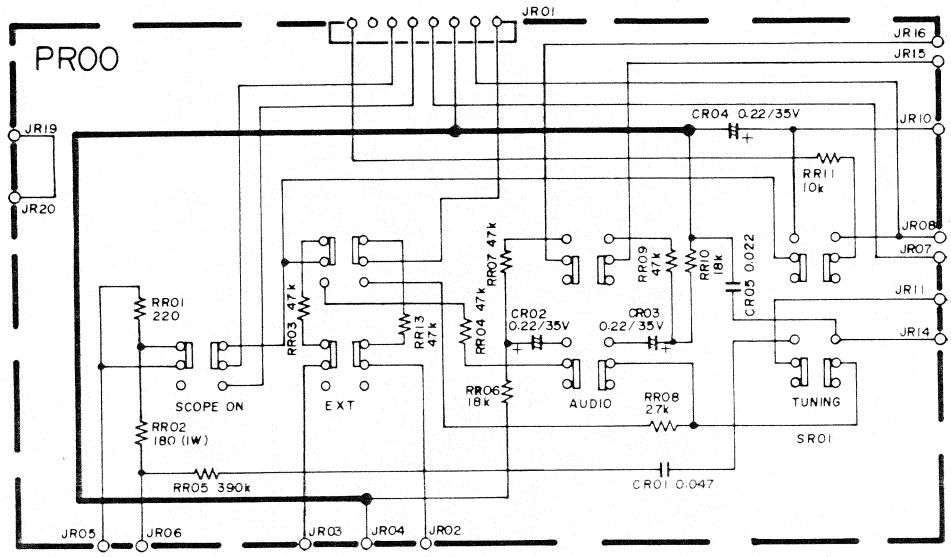


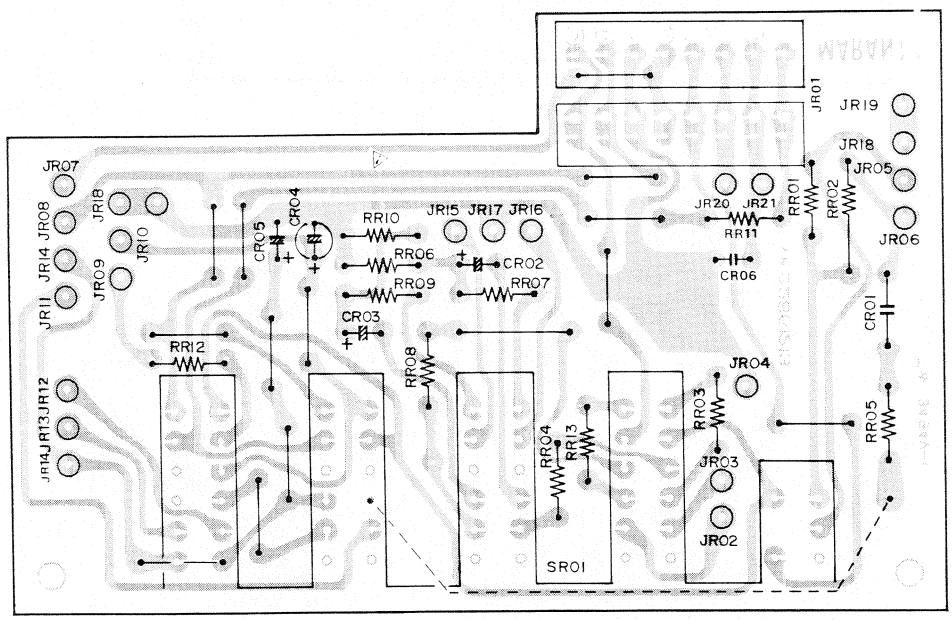
6.5 Scope Amp Board Schematic Diagram and Component Locations - P900



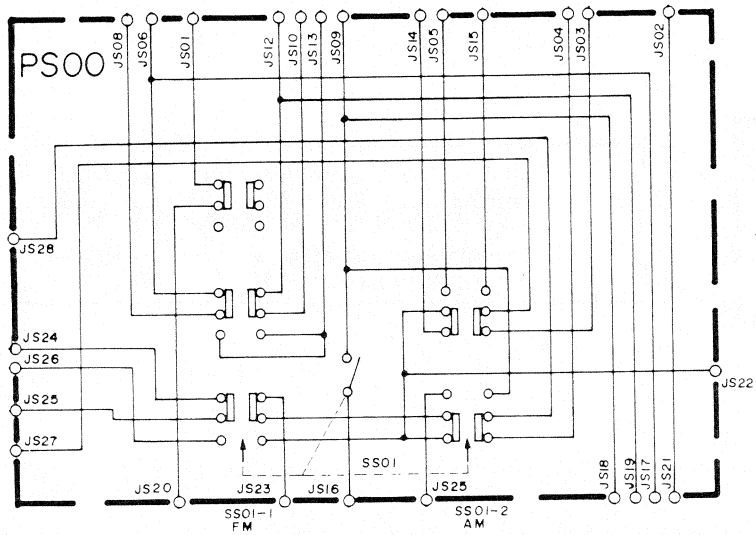


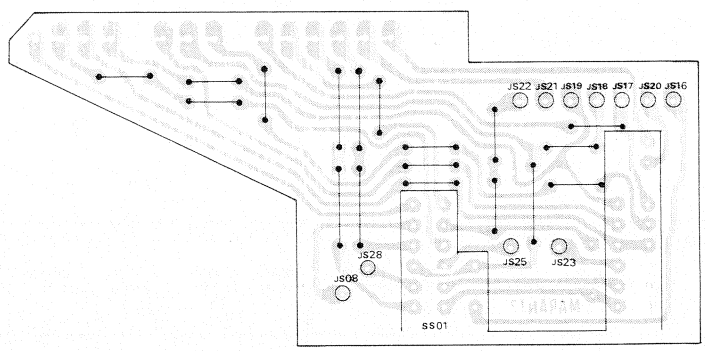
6.6 Scope Display Switches Board Schematic Diagram and Component Locations - PR00



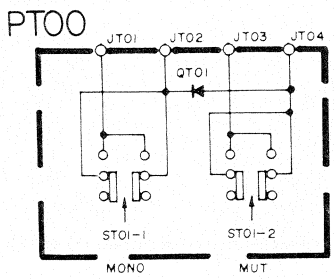


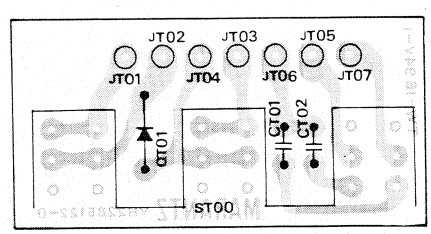
6.7 Function Switches Board Schematic Diagram and Component Locations - PS00



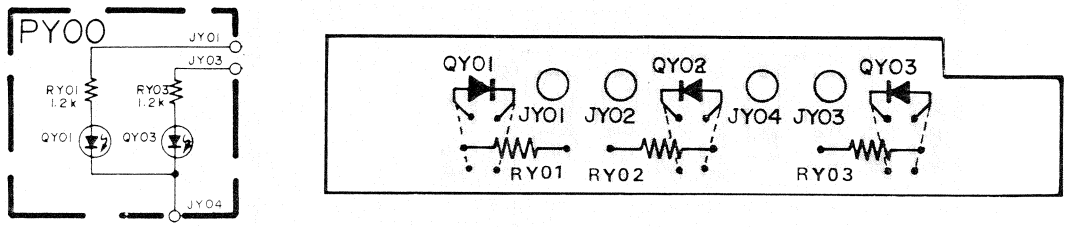


6.8 Mode Switches Board Schematic Diagram and Component Locations - PT00

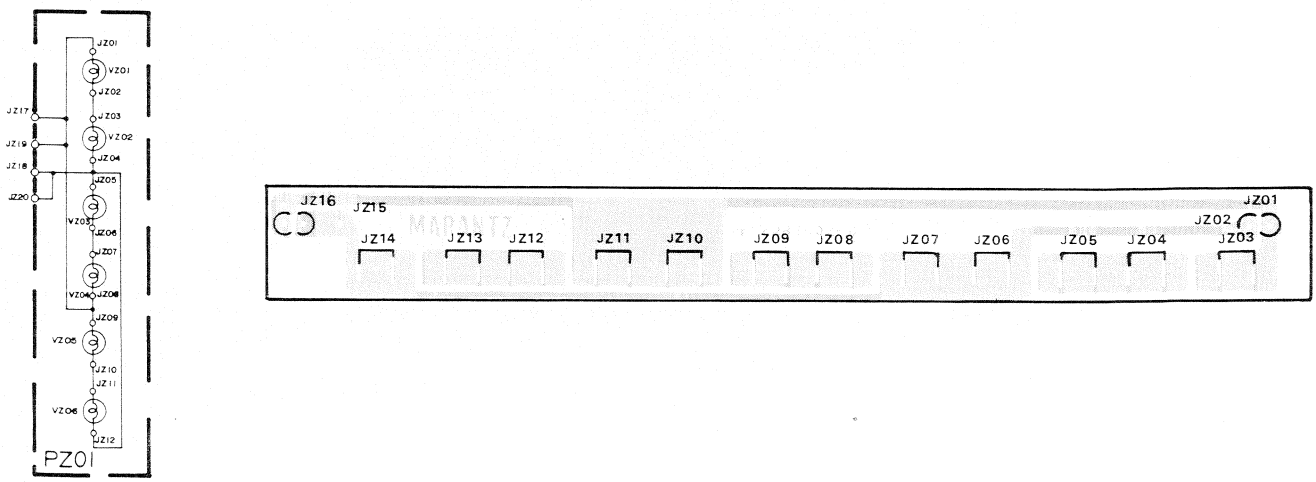




6.9 Function Indicator Board Schematic Diagram and Component Locations - PY00

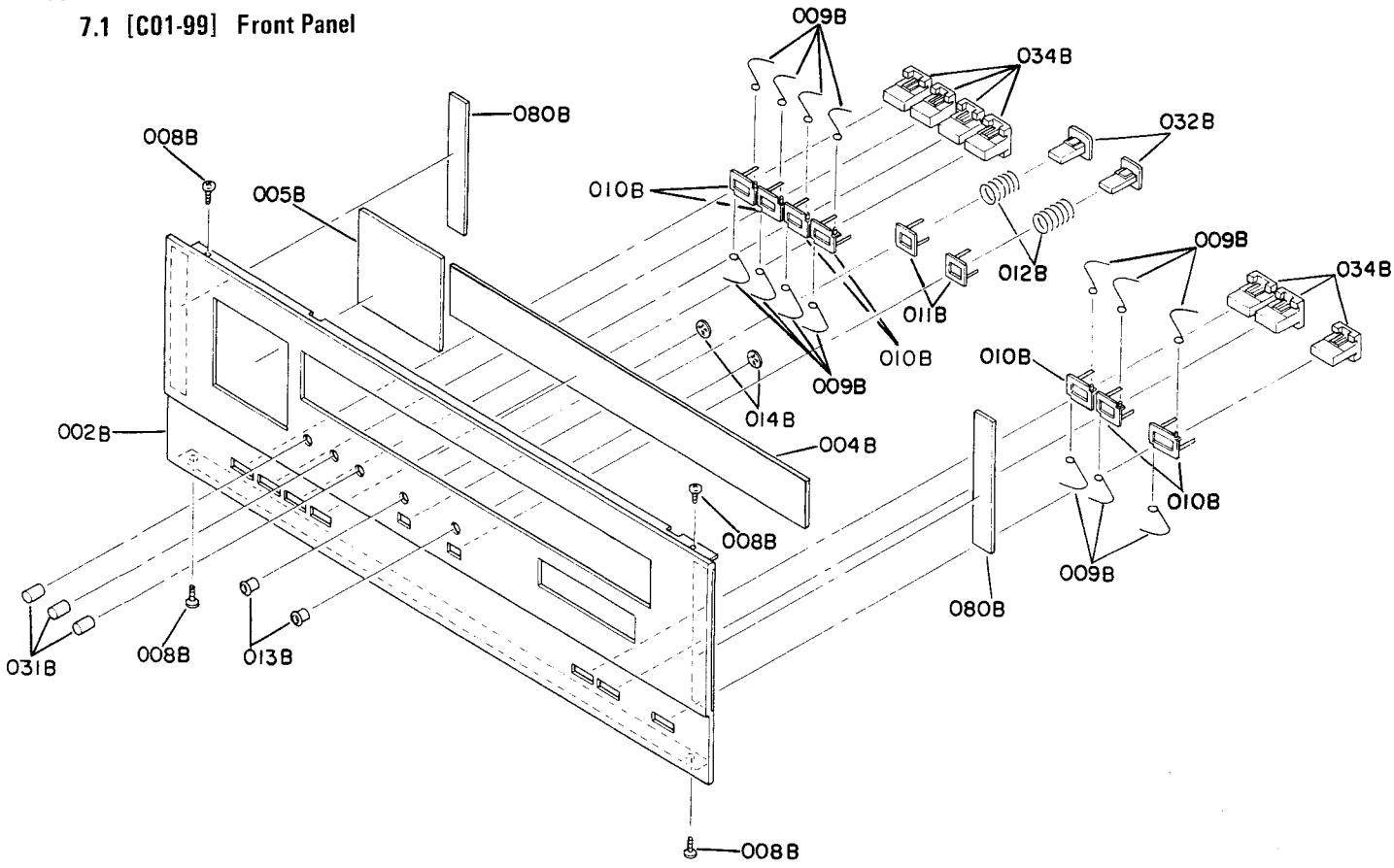


6.10 Dial Lamp Board Scheamtic Diagram and Component Locations - PZ01



7. EXPLODED VIEWS AND PARTS LIST

7.1 [C01-99] Front Panel

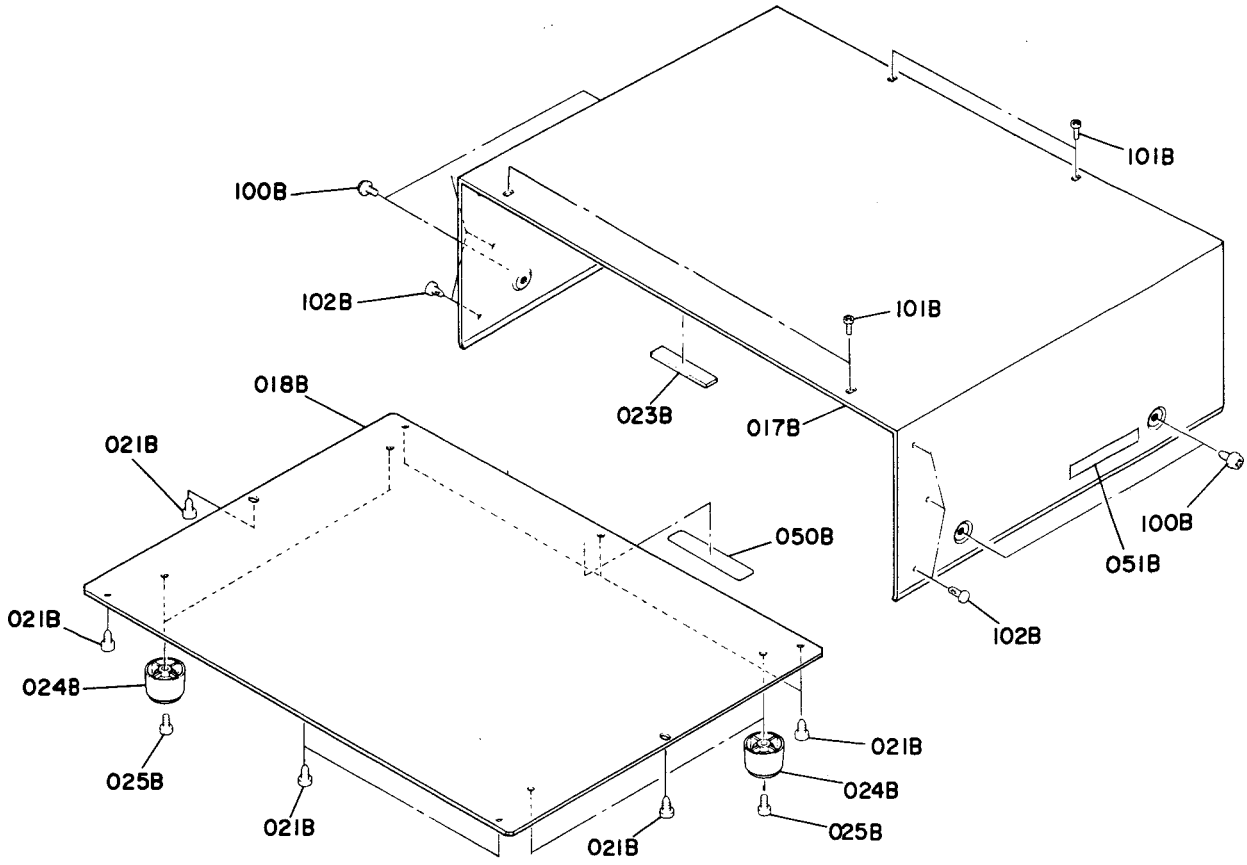


● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
A	1	1	2131063400	Front Panel Assembly
002B	1	1	2131063010	Escutcheon
004B	1	1	2286158120	Window
005B	1	1	2286158110	Window
010B	7	7	2127259010	Bushing
011B	2	2	2112259030	Bushing
013B	2	2	2979259020	Bushing
014B	2	2	6402060000	RG Ring CS
080B	2	2	2128118010	Spacer

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
008B	4	4	51340306B0	F.H. TAP. Screw F3 x 6
009B	14	14	2127115010	Spring
012B	2	2	2112115010	Spring
031B	3	3	2131154010	Knob
032B	2	2	2112154010	Knob
034B	7	7	2127154010	Knob

7.2 [C02-99] Top and Bottom Cover

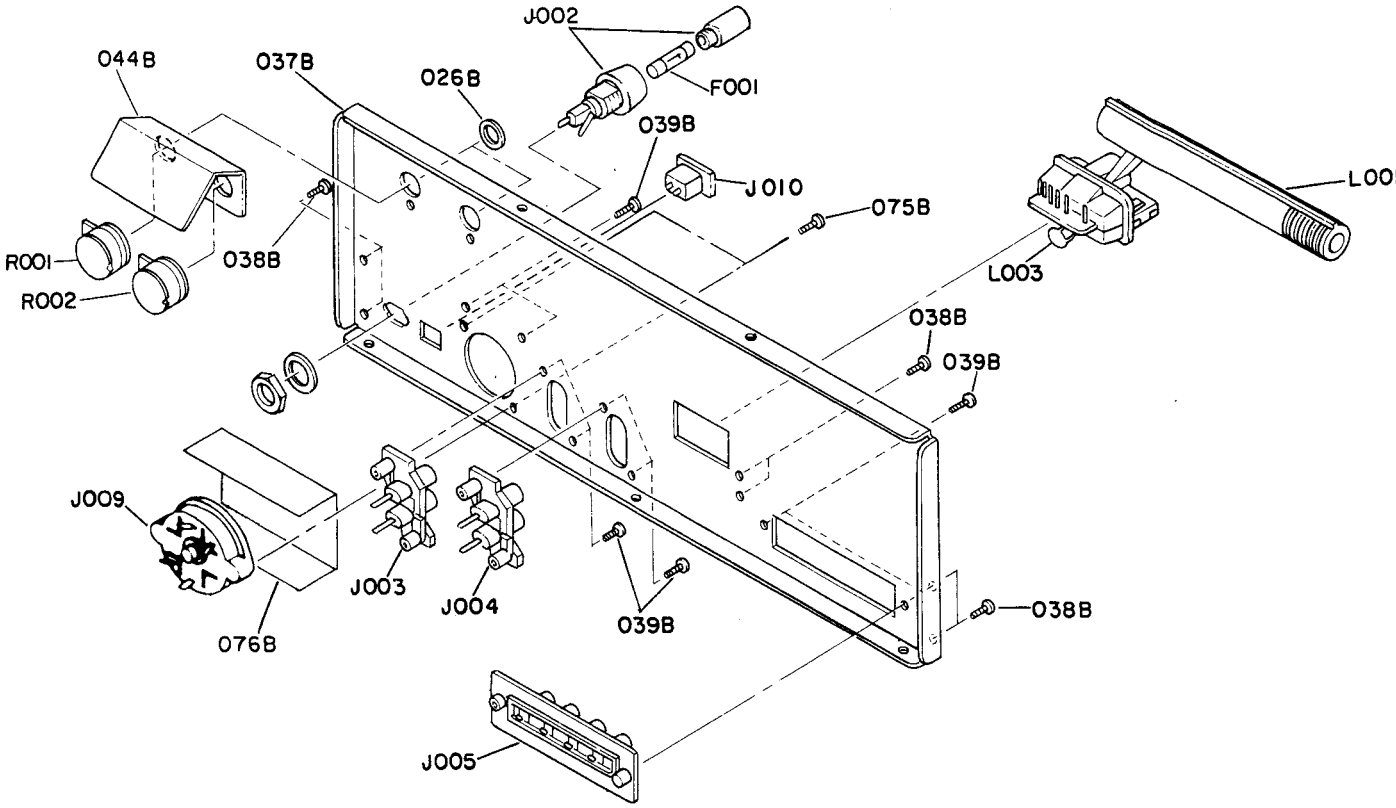


● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
				TOP COVER	
017B	1	1	2216257110	Lid	
023B	1	1	2965118010	Spacer	
051B	1	1	2932861010	Label	
100B	4	4	51480406S9	F. Washer Screw	F4 x 6
101B	4	4	51280306U0	B.H. TAP. Screw	B3 x 6
102B	6	6	2991259010	Bushing	

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
				BOTTOM COVER	
018B	1	1	2216257020	Lid	
021B	8	8	51280410U0	B.H. TAP. Screw	B4 x 10
024B	4	4	2932057010	Leg	
025B	4	4	51570410S0	P. TAP. Screw	P4 x 10
050B	1	1	2578861010	Label	

7.3 [C03-99] Rear Panel

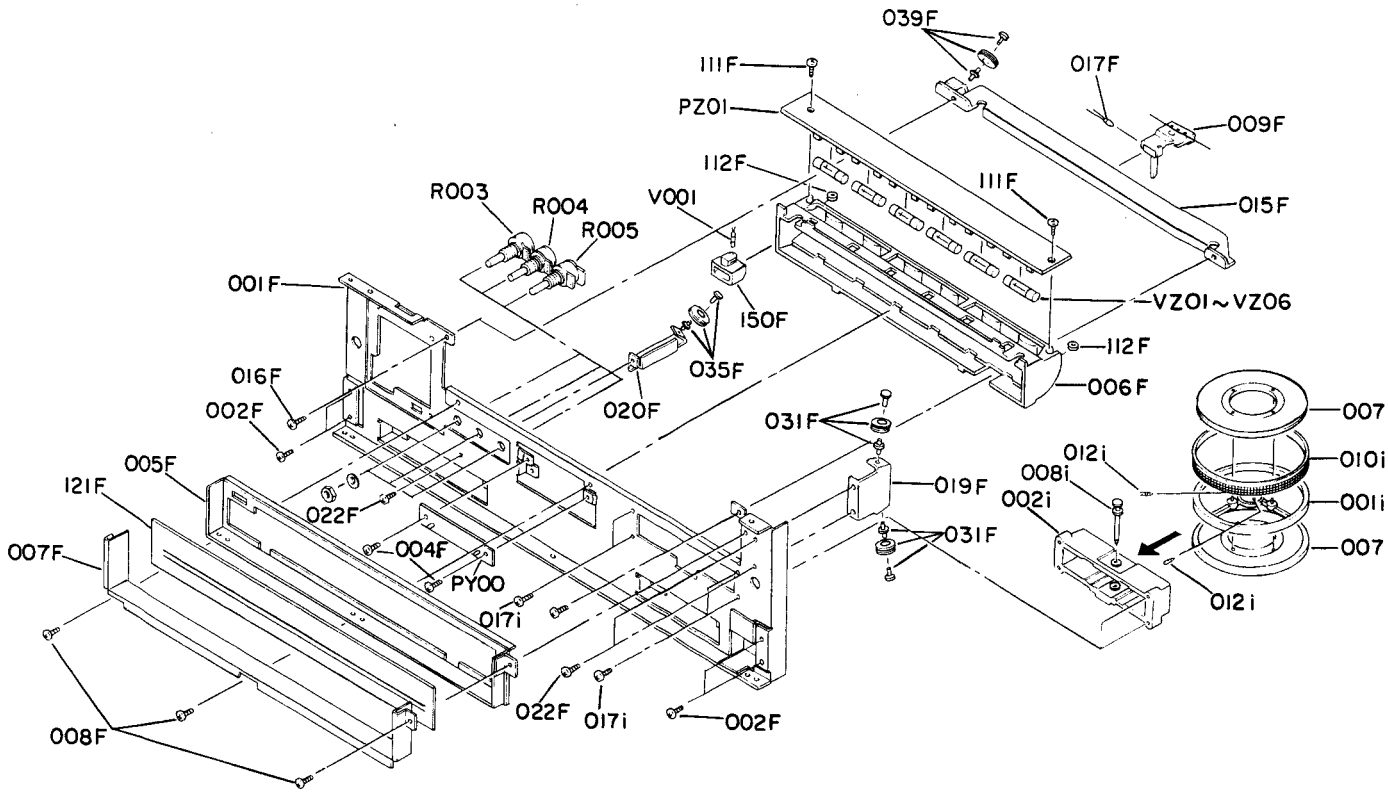


● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
026B	2	2	53228059E0	S.C. Nut
037B	1	1	2131160220	Bracket
038B	6	6	51280308U0	B.H. TAP. Screw B3 x 8
039B	8	8	51280308U0	B.H. TAP. Screw B3 x 8
044B	1	1	2286120020	Insulator
075B	2	2	51280308U0	B.H. TAP. Screw B3 x 8
076B		1	2131120010	Insulator

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
⚠ F001	1	1	FS10063800	Fuse 630mAT 250V
J002	1	1	YJ08000290	Jack Fuse Holder
J003	1	1	YJ02020140	Terminal Output
J004	1	1	YJ02020140	Terminal Scope In
J005	1	1	YJ01040180	Terminal Ant.
⚠ J009	1	1	BY05060010	Plug Voltage Selector
⚠ J010	1	1	YP04000580	Plug AC Inlet
L001	1	1	LF11200620	Ant. Coil
L003	1	1	LC13320050	Choke Coil
R001	1	1	RA05030180	Trimming Resistor 50kΩ (B)
R002	1	1	RK02040060	Variable Resistor 200kΩ (B)

7.4 [P01-99] Front Chassis and General Parts

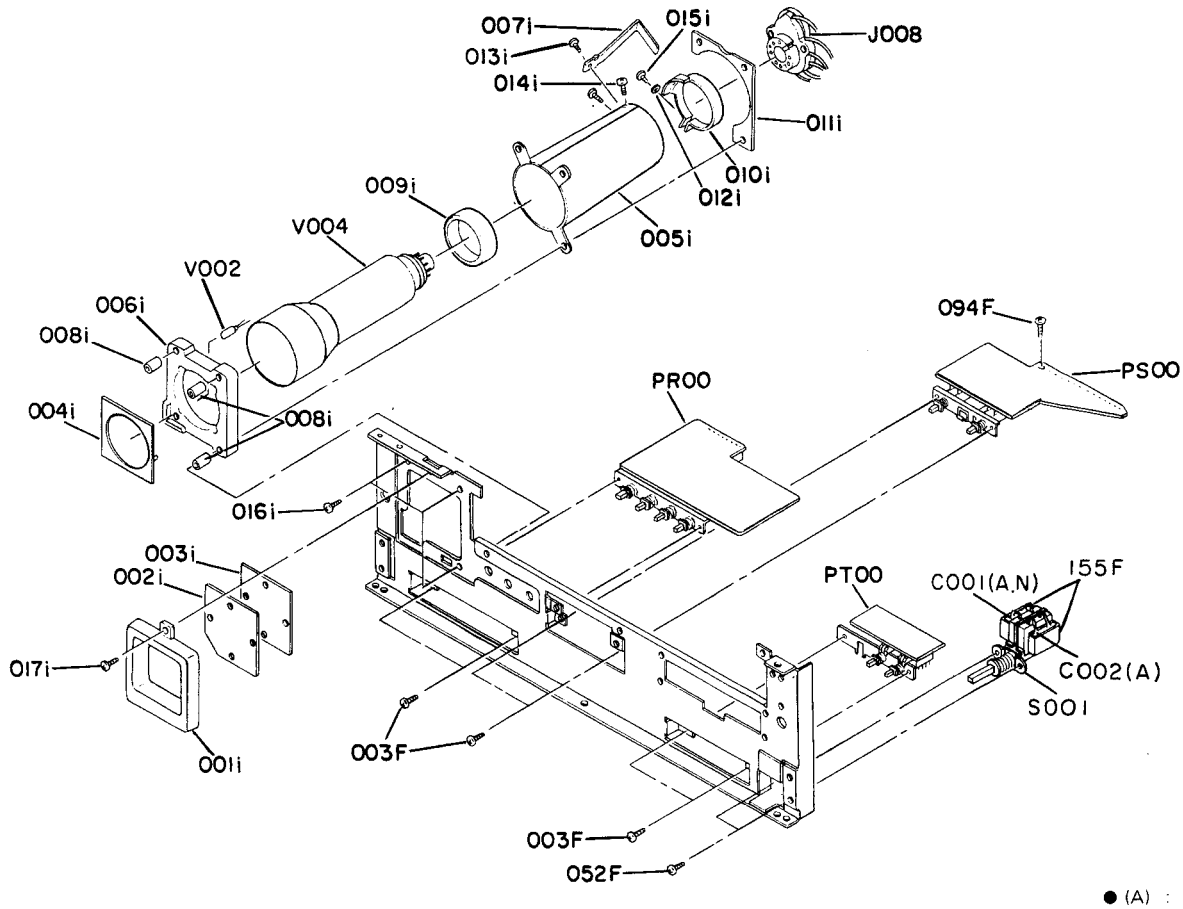


● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
B	1	1	2219273410	Flywheel Assembly	
001i	1	1	2219273010	Flywheel	
007i	2	2	2219063030	Escutcheon	
010i	1	1	2215353010	Ring	
012i	2	2	51690306Q9	Socket Screw, HP	3 x 6
002i	1	1	2219104500	Retainer	
008i	1	1	2219112010	Shaft	
017i	4	4	51280308B0	B.H. TAP. Screw	B3 x 8
001F	1	1	2131160010	Bracket	
002F	4	4	51280308B0	B.H. TAP. Screw	B3 x 8
004F	2	2	51280306B0	B.H. TAP. Screw	B3 x 6
005F	1	1	2218271110	Dial Holder	
006F	1	1	2218274010	Dial Reflector	
007F	1	1	2219053020	Dial Cover	
008F	3	3	51280306B0	B.H. TAP. Screw	B3 x 6
009F	1	1	2991103500	Dial Pointer (K)	
015F	1	1	2286051010	Guide	
016F	3	3	51280306B0	B.H. TAP. Screw	B3 x 6
017F	1	1	IN10080410	Lamp	
019F	1	1	2285271010	Pulley Holder	
020F	1	1	2131271010	Pulley Holder	
022F	3	3	51100306A9	B.H.M. Screw	B3 x 6

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
031F	2	2	2286262500	Pulley (K)	
035F	1	1	2286262500	Pulley (K)	
039F	1	1	2286262500	Pulley (K)	
111F	2	2	51100308A9	B.H.M. Screw	
112F	2	2	53110303E9	Hexagon Nut	
113F	2	2	51480308A9	F. Washer Screw	F3 x 8
121F	1	1	2285302010	Dial	
150F	1	1	2218274030	Reflector	
R003	1	1	RB01030240	Variable Resistor	10kΩ (B)
R004	1	1	RB01030240	Variable Resistor	10kΩ (B)
R005	1	1	RM02540440	Variable Resistor	250kΩ
V001	1	1	IN10080340	Lamp, Stereo	60mA 8V
VZ01 ~ VZ06	6	6	IN10080070	Dial Lamp	0.2A 8V
PY00	1	1	YK22861220	P.W. Board L.E.D.	
	1	1	ZZ22861220	P.W. Board Assembly	
PZ01	1	1	YF22860020	P.W. Board Dial Illuminator	
	1	1	ZZ22860020	P.W. Board Assembly	

7.5 [P02-99] Scope Dial Assembly and P.W. Boards

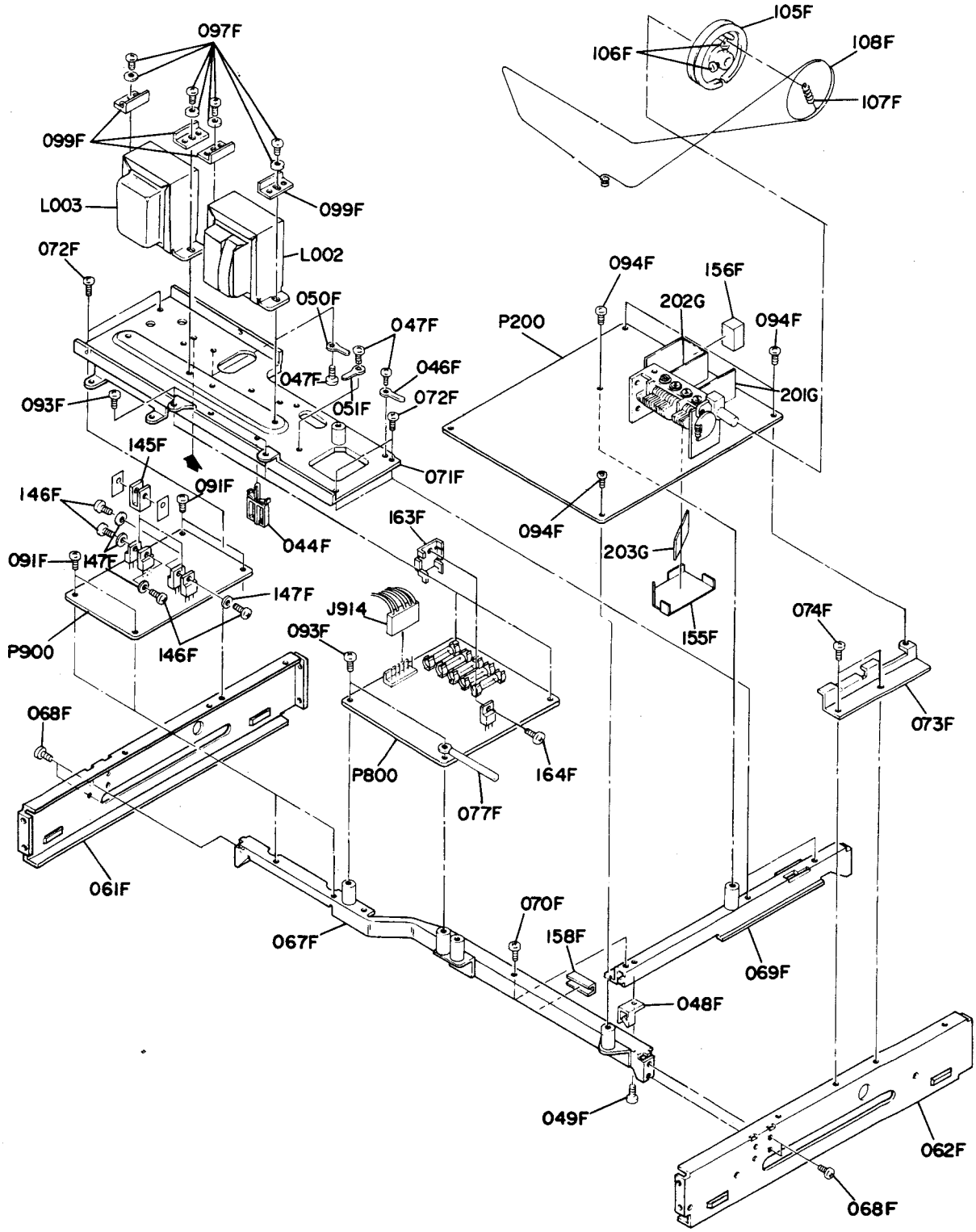


● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
001i	1	1	2286401010	Frame	
002i	1	1	2286302030	Dial	
003i	1	1	2286303010	Mask	
004i	1	1	2286053040	Cover	
005i	1	1	2219109010	Shield	
006i	1	1	2219357010	Rod Scope Pad	
007i	1	1	2286005010	Clamper	
008i	3	3	2219055020	Collar	
009i	1	1	2904056020	Buffer	
010i	1	1	2904005030	Clamper	
011i	1	1	2207005010	Clamper	
012i	1	1	54020301S0	Flat Washer, P	
013i	1	1	51100308S9	B.H.M. Screw	B3 x 8
014i	1	1	51100304S9	B.H.M. Screw	B3 x 4
015i	1	1	51100305S9	B.H.M. Screw	B3 x 5
016i	3	3	51100316S9	B.H.M. Screw	B3 x 16
017i	1	1	51280306B0	B.H. TAP. Screw	B3 x 6
J008	1	1	YJ05000180	Jack CRT Socket	
V002	1	1	IN10080340	Lamp	60mA 8V
V004	1	1	VB00235010	Picture Tube	

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
003F	6	6	51100306A9	B.H.M. TAP. Screw	B3 x 6
052F	2	2	51100306A9	B.H.M. TAP. Screw	B3 x 6
094F	1	1	51280308B0	B.H. TAP. Screw	B3 x 8
155F	2	2	2219120010	Insulator	
⚠ C001	1	1	DF17223800	Film Cap.	0.022μF 1000V
⚠ C002	1	1	DF17223800	Film Cap.	0.022μF 1000V
⚠ S001	1	1	SP02010330	Push Switch Power	
PR00	1	1	YK22861213	P.W. Board Scope SW	
	1	1	ZZ22852210	P.W. Board Assembly	
PS00	1	1	YH22851212	P.W. Board Function SW	
	1	1	ZZ21318210	P.W. Board Assembly	
PT00	1	1	YH22851220	P.W. Board Mode SW	
	1	1	ZZ22858220	P.W. Board Assembly	

7.6 [P03-99] Main Chassis and P.W. Board

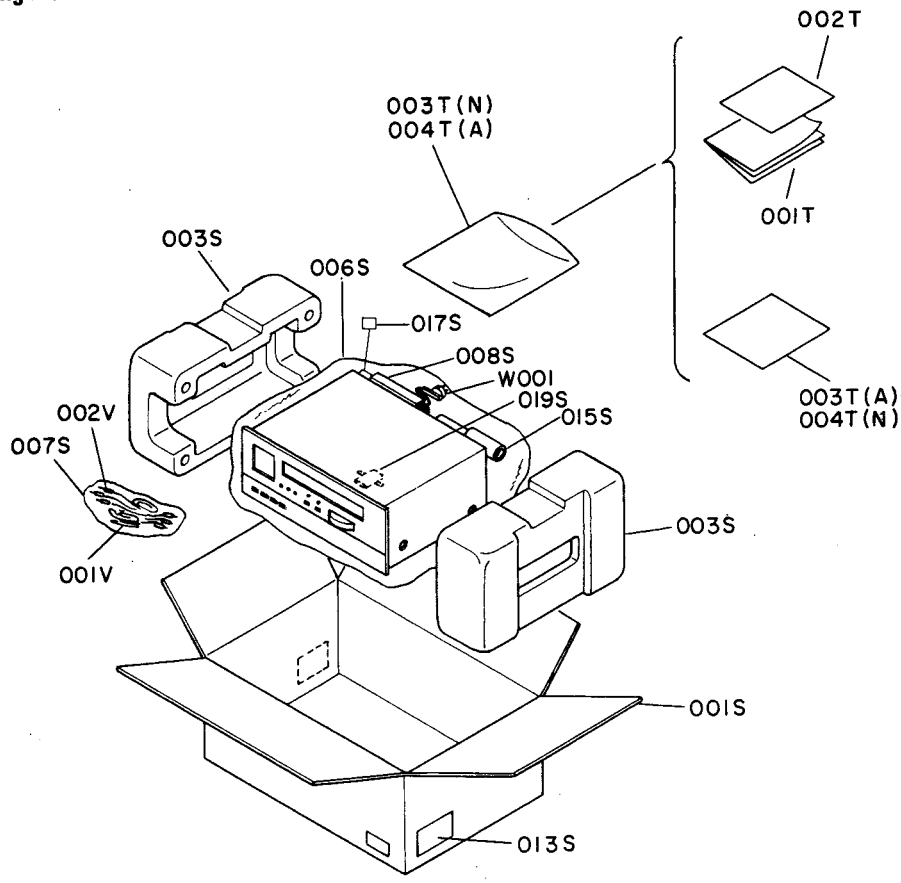


● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
044F	1	1	2886005040	Clamper	
046F	1	1	62030049W0	Lug	
047F	3	3	51280306B0	B.H. TAP. Screw	B3 x 6
048F	1	1	2887005010	Clamper	
049F	1	1	51280306B0	B.H. TAP. Screw	B3 x 6
050F	1	1	62030049W0	Lug	
051F	1	1	62030049W0	Lug	
061F	1	1	2216105020	Chassis (L)	
062F	1	1	2216105030	Chassis (R)	
067F	1	1	2285126010	Stay Front	
068F	4	4	51280306B0	B.H. TAP. Screw	B3 x 6
069F	1	1	2285126030	Stay Main	
070F	1	1	51280306B0	B.H. TAP. Screw	B3 x 6
071F	1	1	2285105010	Chassis Main	
072F	4	4	51280306B0	B.H. TAP. Screw	B3 x 6
073F	1	1	2285126020	Stay Side	
074F	2	2	51280308B0	B.H. TAP. Screw	B3 x 8
077F	1	1	2871005010	Clamper	
078F	1	1	51100305A9	B.H.M. SCrew	B3 x 5
091F	4	4	51280306B0	B.H. TAP. Screw	B3 x 6
093F	4	4	51280308B0	B.H. TAP. Screw	B3 x 8
094F	4	4	51280306B0	B.H. TAP. Screw	B3 x 6
097F	4	4	51470408A9	L. Washer Screw	L4 x 8
099F	4	4	2896104010	Retainer	
105F	1	1	2219159010	Drum	
106F	2	2	51064019A9	P.H.M. Screw	
107F	1	1	71101689L0	Spring	
108F	1	1	72071605A0	String (150)	
145F	2	2	2219267040	Heatsink	
146F	4	4	50060305B9	Screw	3 x 5
147F	4	4	54040302A0	Spring Washer	
155F	1	1	2285109050	Shield	
156F	1	1	3918104010	Retainer	
158F	1	1	4640259010	Bushing	
163F	1	1	2963267020	Heatsink	
164F	1	1	51280306B0	B.H. TAP. Screw	B3 x 6
170F	1	1	2887005010	Clamper	

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
201G	1	1	2259109040	Shield
202G	1	1	2259109050	Shield
203G	1	1	2259109060	Shield
J914	1	1	YJ06001310	Jack (6P)
⚠ L002	1		TS15713110	Power Transformer
⚠ L002		1	TS15713090	Power Transformer
⚠ L003	1		TS15713120	Power Transformer
⚠ L003		1	TS15713100	Power Transformer
P200	1	1	YG22850010	P.W. Board Tuner MPX
	1	1	ZZ21318010	P.W. Board Assembly
P800	1	1	YF22850020	P.W. Board Power Supply
	1	1	ZZ22858020	P.W. Board Assembly
P900	1	1	YK22190310	P.W. Board Scope Amp.
	1	1	ZZ22860310	P.W. Board Assembly

7.7 [H01-99] Packing Materials



● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
001S	1	1	2131801010	Packing Case
003S	2	2	2965809010	Cushion
006S	1		9090909040	Polyethy Sheet
006S		1	9014335330	Polyethy Bag
007S	1	1	9011325010	Polyethy Bag
008S	1	1	2864804010	Sleeve
010S	1	1	2918107170	Sheet
013S	1		9526019030	Serial No. Card
013S		1	9526019060	Serial No. Card
015S	1	1	2819056010	Buffer
017S	1	1	9560000040	Hang Tag
019S		1	2731821010	Silicagel

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
001T	1	1	2131851310	Instructions
002T	1	1	2131851030	Instructions
003T	1		9631000090	Guarantee Card
003T		1	9013025010	Polyethy Bag
004T	1		9013025010	Polyethy Bag
004T		1	2131856010	Circuit Diagram
001V	1	1	ZA02000070	EXT. Ant. FM
002V	1	1	ZD01500160	Connective Cord
⚠W001	1	1	ZC02006020	AC Power Cord

7.8 Electrical Parts List

● (A) : for Australia
● (N) : for Europe

REF DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION		
				P200-TUNER MPX CIRCUIT BOARD		
P200	1	1	YG22850010	P.W. Board, Tuner MPX		
	1	1	ZZ21318010	P.W. Board Assembly		
				P200-CAPACITORS		
C101	1	1	DD15200300	Ceramic	20pF	±5%
C102	1	1	DK18103320	Ceramic	0.01μF	+80% −20%
C103	1	1	DK18103320	Ceramic	0.01μF	+80% −20%
C104	1	1	DK18223320	Ceramic	0.022μF	+80% −20%
C105	1	1	DD15150300	Ceramic	15pF	±5%
C106	1	1	DD15150300	Ceramic	15pF	±5%
C107	1	1	DD10050370	Ceramic	5pF	±0.25pF
C108	1	1	DD15301360	Ceramic	300pF	±5%
C109	1	1	DK18223320	Ceramic	0.022pF	+80% −20%
C110	1	1	DD10020300	Ceramic	2pF	±0.25pF
C111	1	1	DD15200350	Ceramic	20pF	±5%
C112	1	1	DD11100300	Ceramic	10pF	±0.5pF
C113	1	1	DD15150300	Ceramic	15pF	±5%
C114	1	1	DD15150300	Ceramic	15pF	±5%
C115	1	1	DK18223320	Ceramic	0.022μF	+80% −20%
C116	1	1	EA10701690	Elect	100μF	16V
C118	1	1	EV33403560	Elect	0.33μF	35V
C119	1	1	DK18223320	Ceramic	0.022μF	
C120	1	1	CA32400090	Variable	C752J	
C121	1	1	CT11000080	Trimming	10pF	±0.5pF
C122	1	1	DK18403320	Ceramic	0.04μF	+100% −0
C123	1	1	DD10050370	Ceramic	5pF	±0.25pF
C151	1	1	DK18223320	Ceramic	0.022μF	+80% −20%
C152	1	1	EA10601690	Elect	10μF	16V
C153	1	1	DF17102300	Film	0.001μF	±20%
C154	1	1	EA47503590	Elect	4.7μF	35V
C155	1	1	DF17103300	Film	0.01μF	±20%
C156	1	1	DF17563300	Film	0.056μF	±20%
C157	1	1	DF17103300	Film	0.01μF	±20%
C158	1	1	DK17103300	Ceramic	0.01μF	±20%
C159	1	1	DK17103300	Ceramic	0.01μF	±20%
C160	1	1	DD15150370	Ceramic	15pF	±5%
C161	1	1	DK17103300	Ceramic	0.01μF	±20%
C162	1	1	DF65391010	Film	390pF	±5%
C163	1	1	DK18223320	Ceramic	0.022μF	+80% −20%
C164	1	1	EA47601690	Elect	47μF	16V
C165	1	1	DF17102300	Film	0.001μF	±20%
C166	1	1	DK17103300	Ceramic	0.01μF	±20%
C167	1	1	DF17222300	Film	2200pF	±20%
C201	1	1	DK18223320	Ceramic	0.022μF	+80% −20%
C202	1	1	DK18103320	Ceramic	0.01μF	+80% −20%
C203	1	1	DK18223320	Ceramic	0.022μF	+80% −20%
C204	1	1	EA47405090	Elect	0.47μF	50V
C206	1	1	DK18403320	Ceramic	0.04μF	+80% −20%
C207	1	1	DK18403320	Ceramic	0.04μF	+80% −20%
C208	1	1	DK18403320	Ceramic	0.04μF	+80% −20%
C209	1	1	DK18403320	Ceramic	0.04μF	+80% −20%
C210	1	1	DK18403320	Ceramic	0.04μF	+80% −20%
C211	1	1	DK18403320	Ceramic	0.04μF	+80% −20%
C212	1	1	DK18403320	Ceramic	0.04μF	+80% −20%

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION		
C213	1	1	DK18403320	Ceramic	0.04μF	+80% −20%
C214	1	1	EA10601690	Elect	10μF	16V
C215	1	1	EA47405090	Elect	0.47μF	50V
C216	1	1	DD15101370	Ceramic	100pF	±5%
C217	1	1	EA10601690	Elect	10μF	16V
C218	1	1	EA47503590	Elect	4.7μF	35V
C219	1	1	EA10601690	Elect	10μF	16V
C220	1	1	DK18403320	Ceramic	0.04μF	+100% −0
C221	1	1	EA10701690	Elect	100μF	16V
C222	1	1	EA10505090	Elect	1μF	50V
C223	1	1	DK18403320	Ceramic	0.04μF	+100% −0
C224	1	1	DK18403320	Ceramic	0.04μF	+100% −0
C225	1	1	EA10505090	Elect	1μF	50V
C301	1	1	DF55102090	Film	0.001μF	±5%
C302	1	1	DF16222300	Film	2200pF	±10%
C303	1	1	EA33502590	Elect	3.3μF	25V
C304	1	1	EQ47405010	Elect	0.47μF	50V
C305	1	1	EA33502590	Elect	3.2μF	25V
C306	1	1	EV33403560	Elect	0.33μF	35V
C307	1	1	DF17473010	Film	0.047μF	±20%
C308	1	1	DF15103300	Film	0.01μF	±5%
C309	1	1	EV33403560	Elect	0.33μF	35V
C311	1	1	EA10601690	Elect	10μF	16V
C312	1	1	EA10601690	Elect	10μF	16V
C313	1	1	EA10701690	Elect	100μF	16V
C314	1	1	EA22505090	Elect	2.2μF	50V
C315	1	1	EA22505090	Elect	2.2μF	50V
C316	1		DF15102300	Film	1000pF	±5%
C316		1	DF15202300	Film	0.002μF	±5%
C317	1		DF15002300	Film	0.002μF	±5%
C318	1	1	EA47503590	Elect	4.7μF	35V
C319	1	1	EA47503590	Elect	4.7μF	35V
C320	1	1	EV33403560	Elect	0.33μF	35V
C321	1	1	EV33403560	Elect	0.33μF	35V
C322	1	1	EA10601690	Elect	10μF	16V
C323	1	1	EA10601690	Elect	10μF	16V
C324	1	1	DF15152300	Film	1500pF	±5%
C326	1	1	EA47503590	Elect	4.7μF	35V
C327	1	1	EA22701690	Elect	220μF	16V
C330	1	1	DK18403320	Ceramic	0.04μF	+80% −20%

● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
				P200-RESISTORS
				(All Resistors are ±5% and 1/4W)
R101	1	1	GD05105140	1MΩ
R102	1	1	GD05101140	100Ω
R103	1	1	GD05101140	100Ω
R104	1	1	GD05101140	100Ω
R105	1	1	GD05223140	22kΩ
R106	1	1	GD05472140	4.7kΩ
R107	1	1	GD05102140	1kΩ
R109	1	1	GD05103140	10kΩ
R110	1	1	GD05222140	2.2kΩ
R111	1	1	GD05103140	10kΩ
R112	1	1	GD05101140	100Ω
R113	1	1	GD05104140	100kΩ
R114	1	1	GD05221140	220Ω
R151	1	1	RA01040110	Trimming 100kΩ (B)
R152	1	1	GD05102140	1kΩ
R153	1	1	GD05103140	10kΩ
R154	1	1	GD05103140	10kΩ
R155	1	1	GD05102140	1kΩ
R156	1	1	GD05223140	22kΩ
R157	1	1	GD05301140	300Ω
R158	1	1	GD05151140	150Ω
R159	1	1	GD05152140	1.5kΩ
R161	1	1	GD05201140	200Ω
R162	1	1	GD05473140	47kΩ
R202	1	1	GD05331140	330Ω
R203	1	1	GD05272140	2.7kΩ
R204	1	1	GD05153140	15kΩ
R205	1	1	GD05391140	390Ω
R206	1	1	GD05331140	330Ω
R208	1	1	GD05222140	2.2kΩ
R209	1	1	RA05030090	Trimming 50kΩ (B)
R210	1	1	GD05333140	33kΩ
R211	1	1	GD05103140	10kΩ
R212	1	1	RA05020160	Trimming 5kΩ
R214	1	1	GD05183140	18kΩ
R215	1	1	GD05331140	330Ω
R216	1	1	RA05030090	Trimming 50kΩ (B)
R217	1	1	GD05471140	470Ω
R218	1	1	GD05133140	13kΩ
R219	1	1	GD05332140	3.3kΩ
R220	1	1	GD05184140	180kΩ
R221	1	1	GD05104140	100kΩ
R222	1	1	GD05152140	1.5kΩ
R223	1	1	GD05272140	2.7kΩ
R224	1	1	GD05182140	1.8kΩ
R225	1	1	GD05105140	1MΩ
R226	1	1	GD05334140	330kΩ
R227	1	1	RA01050090	Trimming 1MΩ (B)
R228	1	1	GD05105140	1MΩ
R229	1	1	GD05105140	1MΩ
R230	1	1	GD05334140	330kΩ
R231	1	1	GD05224140	220kΩ
R232	1	1	GD05473140	47kΩ
R233	1	1	GD05563140	56kΩ
R235	1	1	GD05333140	33kΩ
R236	1	1	GD05223140	22kΩ
R240	1	1	GD05680140	68Ω
R301	1	1	GD05224140	220kΩ
R302	1	1	GD05272140	2.7kΩ
R303	1	1	GD05562140	5.6kΩ

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
R304	1	1	RA04720050	Trimming 4.7kΩ (B)
R305	1	1	GD05333140	33kΩ
R306	1	1	GD05224140	220kΩ
R307	1	1	RA01040110	Trimming 100kΩ (B)
R308	1	1	GD05333140	33kΩ
R309	1	1	GD05102140	1kΩ
R311	1	1	GD05472140	4.7kΩ
R312	1	1	GD05472140	4.7kΩ
R313	1	1	GD05472140	4.7kΩ
R314	1	1	GD05273140	27kΩ
R315	1	1	GD05472140	4.7kΩ
R316	1	1	GD05472140	4.7kΩ
R317	1	1	GD05273140	27kΩ
R318	1	1	GD05105140	1MΩ
R319	1	1	GD05105140	1MΩ
R320	1	1	GD05154140	150kΩ
R321	1	1	GD05154140	150kΩ
R322	1	1	GD05391140	390Ω
R323	1	1	GD05391140	390Ω
R324	1	1	GD05683140	68kΩ
R325	1	1	GD05683140	68kΩ
R326	1	1	GD05753140	75kΩ
R327	1	1	GD05753140	75kΩ
R328	1	1	GD05473140	47kΩ
R329	1	1	GD05473140	47kΩ
R330	1	1	GD05222140	2.2kΩ
R331	1	1	GD05222140	2.2kΩ
R332	1	1	GD05473140	47kΩ
R333	1	1	GD05473140	47kΩ
R334	1	1	GD05102140	1kΩ
R335	1	1	GD05102140	1kΩ
R336	1	1	RA02030060	Trimming 20kΩ (B)
R337	1	1	GD05222140	2.2kΩ
⚠R338	1	1	GG05150140	15Ω
R339	1	1	GD05102140	1kΩ
R340	1	1	GD05472140	4.7kΩ
R341	1	1	GD05474140	470kΩ
R342	1	1	GD05474140	470kΩ
R343	1	1	GD05304140	300kΩ
R344	1	1	GD05223140	22kΩ
R345	1	1	GD05331140	330Ω

● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION	
				P200-SEMICONDUCTORS	
Q101	1	1	HF400451B0	F.E.T.	3SK45B
Q102	1	1	HT310471C0	Transistor	2SC047 (C)
Q103	1	1	HT308291C0	Transistor	2SC829 (C)
Q151	1	1	HC10019010	IC	HA1197
Q152	1	1	HV00006120	Varistor	MV-203
Q201	1	1	HT310471C0	Transistor	2SC1047C
Q202	1	1	HC10033010	IC	HA11225
Q203	1	1	HT309452A0	Transistor	2SC945 (P or Q)
Q204	1	1	HD20011050	Diode	1S1555
Q205	1	1	HD20011050	Diode	1S1555
Q206	1	1	HC10019060	IC	μPC741C
Q207	1	1	HV00006120	Varistor	MV-203
Q208	1	1	HD20011050	Diode	1S1555
Q301	1	1	HT309452A0	Transistor	2SC945 (P or Q)
Q302	1	1	HC10029010	IC	HA11223
Q303	1	1	HT317400S0	Transistor	2SC1740LN (S)
Q304	1	1	HT317400S0	Transistor	2SC1740LN (S)
Q305	1	1	HT309452A0	Transistor	2SC945 (P or Q)
Q306	1	1	HT309452A0	Transistor	2SC945 (P or Q)
Q307	1	1	HT317400S0	Transistor	2SC1740LN (S)
Q308	1	1	HT317400S0	Transistor	2SC1740LN (S)
Q309	1	1	HD30033090	Zener	WZ052
				P200-FILTERS	
F151	1	1	FF10045220	Ceramic	450kHz
F201	1	1	FF11070050	Ceramic Filter	10.7MS3G
F202	1	1	FF11070130	Ceramic Filter	10.7MS3G
F203	1	1	FF11070130	Ceramic Filter	10.7MS3G
				P200-COILS	
L101	1	1	LA12026170	Ant Coil	FM
L102	1	1	LA12026180	Ant Coil	FM
L103	1	1	LC17510010	Choke Coil	0.75μF
L104	1	1	LI10016010	I.F.T.	FM
L105	1	1	LO12046010	OSC Coil	FM
L106	1	1	LC13320020	Choke Coil	3.3μH
L151	1	1	LI10015060	I.F.T.	AM
L152	1	1	LI10010720	I.F.T.	AM
L153	1	1	LO10010480	OSC Coil	AM
L155	1	1	LC13320050	Choke Coil	3.3μH
L201	1	1	LI10156240	I.F.T.	FM
L202	1	1	LI10156230	I.F.T.	FM
L203	1	1	LC12230050	Choke Coil	22μH
L204	1	1	LC13320050	Choke Coil	3.3μH
L301	1	1	LS20013010	M.P.X. Coil	
L302	1	1	LS20013010	M.P.X. Coil	

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION		
				P800-POWER SUPPLY CIRCUIT BOARD		
P800	1	1	YF22850020	P.W. Board, Power Supply		
	1	1	ZZ22858020	P.W. Board Assembly		
				P800-CAPACITORS		
C802	1	1	EA47701690	Elect	470μF	16V
C803	1	1	EA47702590	Elect	470μF	25V
C804	1	1	DK18103510	Ceramic	0.01μF	
C805	1	1	DK18103510	Ceramic	0.01μF	
⚠ C806	1	1	EA47702590	Elect	470μF	25V
⚠ C807	1	1	EA22802590	Elect	2200μF	25V
C808	1	1	EA47702590	Elect	470μF	25V
⚠ C809	1	1	EA10625010	Elect	10μF	250V
C810	1	1	EA10625010	Elect	10μF	250V
⚠ C811	1	1	EA10635010	Elect	10μF	350V
⚠ C812	1	1	EA10635010	Elect	10μF	350V
C813	1	1	EA10702590	Elect	100μF	25V
C814	1	1	EA10701690	Elect	100μF	16V
C815	1	1	EQ10505010	Elect	1μF	50V
C816	1	1	EA47503590	Elect	4.7μF	35V
				P800-RESISTORS		
				(All Resistors are ±5% and 1/4W)		
R801	1	1	GD05562140	5.6kΩ		
R802	1	1	GD05104140	100kΩ		
R803	1	1	GD05103140	10kΩ		
R805	1	1	GG05331140	330Ω		
R806	1	1	GG05221140	220Ω		
R807	1	1	GW10822030	8.2kΩ	±10%	3W
R808	1	1	GG05301120	300Ω		
⚠ R809	1	1	GG05472140	4.7kΩ		
R810	1	1	GD05103140	10kΩ		
R811	1	1	GD05154140	150kΩ		
R812	1	1	GD05123140	12kΩ		
R813	1	1	GD05684140	680kΩ		
R814	1	1	GD05100140	10Ω		
R815	1	1	GD05153140	15kΩ		
R816	1	1	GD05102140	1kΩ		
R817	1	1	GD05104140	100kΩ		
R818	1	1	GA05330010	33Ω		1W
R819	1	1	GA05301010	300Ω		1W
R820	1	1	GD05473140	47kΩ		
⚠ R821		1	RF05100140	Fusible	10Ω	

● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
				P800-SEMICONDUCTORS
Q801	1	1	HT309452A0	Transistor 2SC945 (Q or R)
Q802	1	1	HT309452A0	Transistor 2SC945 (Q or R)
Q803	1	1	HT403132A0	Transistor 2SD313 (D or E)
Q804	1	1	HD30027090	Zener WZ140
⚠ Q805	1	1	HD20005010	Diode W06B
⚠ Q806	1	1	HD20005010	Diode W06B
⚠ Q807	1	1	HD20014030	Diode DS130YA
⚠ Q808	1	1	HD20014030	Diode DS130YA
⚠ Q809	1	1	HD20021100	Diode 2DL15
Q810	1	1	HD30027090	Zener WZ140
Q811	1	1	HD20011050	Diode 1S1555
Q812	1	1	HD20011050	Diode 1S1555
Q813	1	1	HT309452A0	Transistor 2SC945 (Q or R)
Q814	1	1	HT309452A0	Transistor 2SC945 (Q or R)
Q815	1	1	HD20011050	Diode 1S1555
				P800-MISCELLANEOUS
⚠ F801	1	1	FS10125800	Fuse 1.25A
⚠ F802	1	1	FS30500010	Fuse 50mAT
⚠ F803	1	1	FS30500010	Fuse 50mAT
⚠ F804	1	1	FS30500010	Fuse 50mAT
⚠ F805	1	1	FS10031800	Fuse 315mAT
J801 ~ J810	10	10	YJ08000270	Jack, Fuse Holder
J821	1	1	YP06001310	Plug (6P)
				P900-SCOPE AMP. CIRCUIT BOARD
P900	1	1	YK22190310	P.W. Board, Scope Amp.
	1	1	ZZ22860310	P.W. Board Assembly
				P900-CAPACITORS
C901	1	1	DK18103820	Ceramic 0.01μF 1kV
C902	1	1	DK18103820	Ceramic 0.01μF 1kV
C903	1	1	DF17473520	Film 0.047μF ±20% 200V
				P900-RESISTORS (All Resistors are ±5% and 1/4W)
R901	1	1	RT05224140	220kΩ
R902	1	1	RT05224140	220kΩ
R903	1	1	RT05224140	220kΩ
R904	1	1	RT05224140	220kΩ
R905	1	1	RT05682140	6.8kΩ
R906	1	1	RT05682140	6.8kΩ
R907	1	1	RT05222140	2.2kΩ
R908	1	1	RT05222140	2.2kΩ
R909	1	1	RT05103140	10kΩ
R910	1	1	RT05103140	10kΩ

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
R911	1	1	RT05103140	10kΩ
R912	1	1	RT05103140	10kΩ
R913	1	1	RT05683140	68kΩ
R914	1	1	RT05683140	68kΩ
R915	1	1	RT05623140	62kΩ
R916	1	1	RT05623140	62kΩ
R917	1	1	RT05823140	82kΩ
R918	1	1	RT05204140	200kΩ
R919	1	1	RT05105140	1MΩ
R920	1	1	RT05105140	1MΩ
R921	1	1	RT05224140	220kΩ
R922	1	1	RT05155140	1.5MΩ
R923	1	1	GG05153140	15kΩ
R924	1	1	RT05473140	47kΩ
R925	1	1	RA01030250	Trimming 10kΩ
R926	1	1	RA01030250	Trimming 10kΩ
R927	1	1	RA01020150	Trimming 1kΩ
R928	1	1	RA01020150	Trimming 1kΩ
R929	1	1	RT05204140	200kΩ
R930	1	1	RT05152140	1.5kΩ
R931	1	1	RA01030070	Trimming 10kΩ
R932	1	1	RT05473140	47kΩ
				P900-SEMICONDUCTORS
Q901	1	1	HF200304A0	F.E.T. 2SK30A
Q902	1	1	HF200304A0	F.E.T. 2SK30A
Q903	1	1	HF200304A0	F.E.T. 2SK30A
Q904	1	1	HF200304A0	F.E.T. 2SK30A
Q905	1	1	HT317562B0	Transistor 2SC1756 D or E
Q906	1	1	HT317562B0	Transistor 2SC1756 D or E
Q907	1	1	HT317562B0	Transistor 2SC1756 D or E
Q908	1	1	HT317562B0	Transistor 2SC1756 D or E
Q909	1	1	HD20003210	Diode 1S2471
Q910	1	1	HD20003210	Diode 1S2471
Q911	1	1	HD20001210	Diode 1S2473
				P900-MISCELLANEOUS
J901	1	1	YP06001630	Plug (8P)
J902	1	1	YP06001050	Plug (5P)
J903	1	1	YP06001050	Plug (5P)
J904	1	1	YB00140030	Connective Cord
J905	1	1	YB00180010	Connective Cord
J906	1	1	YB00140030	Connective Cord
J907	1	1	YB00120010	Connective Cord
J908	1	1	YB00140040	Connective Cord
J909	1	1	YB00150010	Connective Cord
J910	1	1	YB00180020	Connective Cord
J911	1	1	YB00200290	Connective Cord
J912	1	1	YB00180030	Connective Cord
J913	1	1	YB00210010	Connective Cord
J914	1	1	YJ06001310	Jack (6P)

● (A) : for Australia
● (N) : for Europe

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
				PR00-SCOPE SWITCH CIRCUIT BOARD
PR00	1	1	YK22861210	P.W. Board, Scope Switch
	1	1	ZZ22852210	P.W. Board Assembly
				PR00-CAPACITORS
CR01	1	1	DF17473050	Film 0.047μF ±20%
CR02	1	1	EV22403560	Elect 0.22μF 35V
CR03	1	1	EV22403560	Elect 0.22μF 35V
CR04	1	1	EV22403560	Elect 0.22μF 35V
CR05	1	1	DK18223320	Ceramic 0.022μF +100% −0
				PR00-RESISTORS (All Resistors are ±5% and 1/4W)
RR01	1	1	GG05221140	220Ω
RR02	1	1	GA05181010	180Ω 1W
RR03	1	1	GD05473140	47kΩ
RR04	1	1	GD05473140	47kΩ
RR05	1	1	GD05394140	390kΩ
RR06	1	1	GD05183140	18kΩ
RR07	1	1	GD05473140	47kΩ
RR08	1	1	GD05273140	27kΩ
RR09	1	1	GD05473140	47kΩ
RR10	1	1	GD05183140	18kΩ
RR11	1	1	GD05103140	10kΩ
RR13	1	1	GD05473140	47kΩ
				PR00-MISCELLANEOUS
JR01	1	1	YJ06001330	Jack, (8P)
SR01	1	1	SP04040200	Push Switch, Scope
				PS00-FUNCTION SWITCH CIRCUIT BOARD
PS00	1	1	YH22851210	P.W. Board, Function Switch
	1	1	ZZ21318210	P.W. Board Assembly
SS01	1	1	SP06020150	Push Switch, Function
				PT00-MODE SWITCH CIRCUIT BOARD
PT00	1	1	YH22851220	P.W. Board, Mode Switch
	1	1	ZZ22858220	P.W. Board Assembly
				PT00-SEMICONDUCTORS
QT01	1	1	HD20011050	Diode 1S1555
				PT00-SWITCH
ST00	1	1	SP02020433	Push Switch, Mode
				PY00-LED CIRCUIT BOARD
PY00	1	1	YK22861220	P.W. Board, LED
	1	1	ZZ22861220	P.W. Board Assembly
				PY00-RESISTORS
RY01	1	1	GD05122140	1.2kΩ ±5% 1/4W
RY03	1	1	GD05122140	1.2kΩ ±5% 1/4W

REF. DESIG.	Q'TY A	Q'TY N	PART NO.	DESCRIPTION
				PY00-SEMICONDUCTORS
QY01	1	1	HI10004030	L.E.D.
QY03	1	1	HI10004030	L.E.D.
				PZ01-DIAL ILLUMINATOR CIRCUIT BOARD
PZ01	1	1	YF22860020	P.W. Board, Dial Illuminator
	1	1	ZZ22861020	P.W. Board Assembly
JZ03 ~ JZ14	12	12	YJ08000170	Jack, Lamp Holder
VZ01 ~ VZ06	6	6	IN10080070	Dial Lamp 0.2A 8V

(W01-99)	Assembly and Wiring
(T01-99)	Adjustment
(X01-00)	Correction

8. TECHNICAL SPECIFICATIONS

FM TUNER SECTION

Frequency Range	87.4~108.2 MHz
Usable Sensitivity 40 kHz Deviation, 98 MHz	
Mono, S/N 26 dB	1.4 μV
Stereo, S/N 46 dB	45 μV
Alternate Channel Selectivity, 98 MHz ±300 kHz	75 dB
Image Response Rejection, 98 MHz	60 dB
IF Rejection, 98 MHz	98 dB
Spurious Response Rejection, 98 MHz	98 dB
AM Suppression, 98 MHz	59 dB
Signal-to-Noise Ratio, 98 MHz	
Unweighted: Mono	65 dB
Stereo	60 dB
Weighted: Mono	68 dB
Stereo	64 dB
Pilot Signal & Subcarrier Rejection	
19 kHz	68 dB
38 kHz	74 dB
Total Harmonic Distortion, 98 MHz	
Mono	0.06%
Stereo	0.17%
Frequency Response	
30 Hz~15 kHz	+0, –0.4 dB
Separation	
Stereo	55 dB
Channel Balance	0.3 dB
Output Voltage, 1 kHz	560 mV
Output Impedance, 1 kHz	1.0 kohms
Acceptable Load Impedance, 1 kHz	10 kohms
Antenna Terminals	
Balanced	300 ohms
Unbalanced	75 ohms

AM TUNER SECTION

Frequency Range	520~1630 kHz
Usable Sensitivity (26 dB S/N 30% Mod., 1 MHz)	25 μV
Selectivity, 1 MHz ±9 kHz	46 dB
Image Rejection, 1 MHz	50 dB
IF Rejection, 1 MHz	40 dB
Spurious Response Rejection, 1 MHz	105 dB
Signal-to-Noise Ratio, 1 MHz	60 dB
Frequency Response, 1 MHz ±3 dB	40 Hz~2.6 kHz
Total Harmonic Distortion, 1 MHz	0.5%

GENERAL

Power Requirements	220 V AC, 50 Hz
	(N version is featuring an external voltage selector for use on 110/220V. Other versions can be converted by qualified technician to operate on 220/240V.)
Power Consumption	30 W
Semiconductor Complement	
Integrated Circuits	4
Transistors	20
Diodes	19
Field Effect Transistors	5
Dimensions	
Panel Width	416 mm (16-3/8")
Panel Height	146 mm (5-3/4")
Depth	302 mm (11-51/64")
Weight	
Unit alone	8 kg (17.6 lbs)
Packed for shipment	9 kg (19.8 lbs)